



Video Wall Controller/Splitter

**Ultra High Resolution Video Controller/
Splitter for Multi-Screen Display Solution**



VWBOX-E122

1 Input with 4 Outputs (2x2)
Up to 1920 x 1200 High-Resolution Input



VWBOX-E133

1 Input with 9 Outputs (3x3)
Up to 1920 x 1200
High-Resolution Input



VWBOX-114

1 Input with 4 Outputs (4x1)
Up to 4092 x 768
High-Resolution Input



VWBOX-122A

1 Input with 4 Outputs (2x2)
Up to 3840 x 2400
High-Resolution Input

VWBOX-133A

1 Input with 9 Outputs (3x3)
Up to 3840 x 3072 (5:4) & 4080 x 2304 (16:9)
High-Resolution Input



VWBOX-114P

1 Dual-link DVI Input to 4 DVI Outputs (4x1 & 1x4)
Support Up to 4092 x 768 / 1360 x 3072
High-Resolution Input



IEI Video Wall Controller Advantage

Connect a laptop or desktop PC directly to the video box for instant display on a large video wall. No special hardware is required, only a high resolution DVI output from the computer to the video box. The video box tiles together a group of small and inexpensive LCD panels to produce a large video screen.



Easy-To-Install

Just a DVI cable connects the computer to the video box. No extra setup is required and the video box automatically detects the correct settings. Traditional setups require complex software drivers and complicated setup. The IEI video boxes are as simple as plug and play.

Advantage

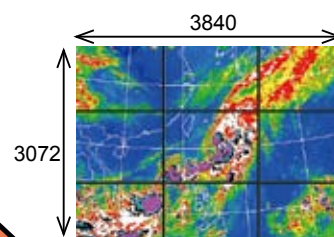
Traditional PC-Based Video Wall Solution



Large PC with expansion slots



Multiple graphic cards & complex driver support



New-Generation IEI Video Wall Solution

Connect a computer to the video wall with just a high-resolution **Dual-link DVI** connection.

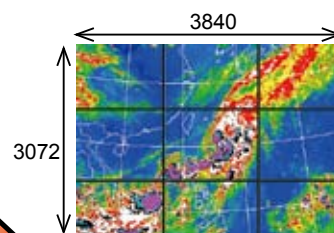


PC & 1 Dual-link DVI graphic card

**Connect via only
1 Dual-link DVI**



IEI embedded video wall controller



Space-Saving

Better Reliability

Quicker&Easier Installation

Cost-Effective

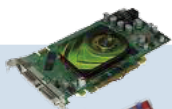
	Size	Power Consumption	Installation	Expansion
New Generation IEI VWBOX Solution	Small • Embedded box design	Low • Fanless	Easy • Connect PC via 1 DVI cable	Flexible & Easy • Super large video wall by connecting IEI VWBOXs
Traditional PC-based Solution	Large • PC with multiple graphic cards	High • Graphic card processing consumes much power	Complicated • Special drivers & software support	Limited & Expensive • Require a PC with multiple expansion slots

Cost-Effective High-Resolution

The video wall requires a consumer grade graphic card with high-resolution dual link DVI output. The graphics cards below meet these requirements. Please check the specifications of the card against the input requirement of the video box.

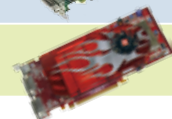
Advantage

nVidia GeForce Series



9800/9600/9500/9400/8600/8400

ATI Radeon HD series



4850/4830/4670/4650/3850/3650

The video box includes a dual-link DVI cable for connecting the computer to the video box, or connecting two video boxes together. A DVI-to-HDMI converter is also included for connecting the video box to a monitor that supports HDMI video input.



DVI/HDMI Converter

How to Identify the Right Connector for IEI VWBOX Installation?

				
	Dual-link DVI-D	Dual-link DVI-I	Single-link DVI-D	Single-link DVI-I
Image Input (PC to VWBOX)	Yes (for VWBOX-114/122A/133A)	No	Yes (for VWBOX-E133)	Yes (for VWBOX-E122/E133)
Image Output (VWBOX to Monitor)	No	No	Yes	No

Compatible with Various Type of Displays

IEI video wall controllers can be connected to almost any monitor that supports DVI input. Monitors can be chosen according to budget and application needs.

**Please check before installation if the frequency of your displays are compatible with IEI VWBOXs.*



LCD Monitor



HD Plasma Display



DLP

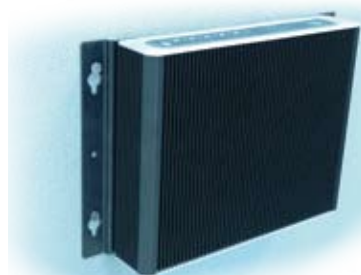


Projector

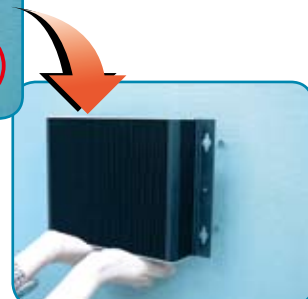
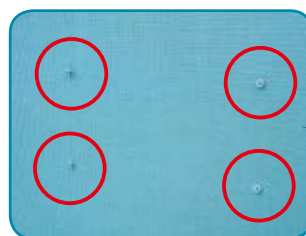
Space-Saving Advantage

Quick Wall Mounting

The VWBOX series have four mounting holes on the rear panel for wall mounting requirement. The optional mounting kits allow quick and convenient wall mounting of IEI VWBOX series.

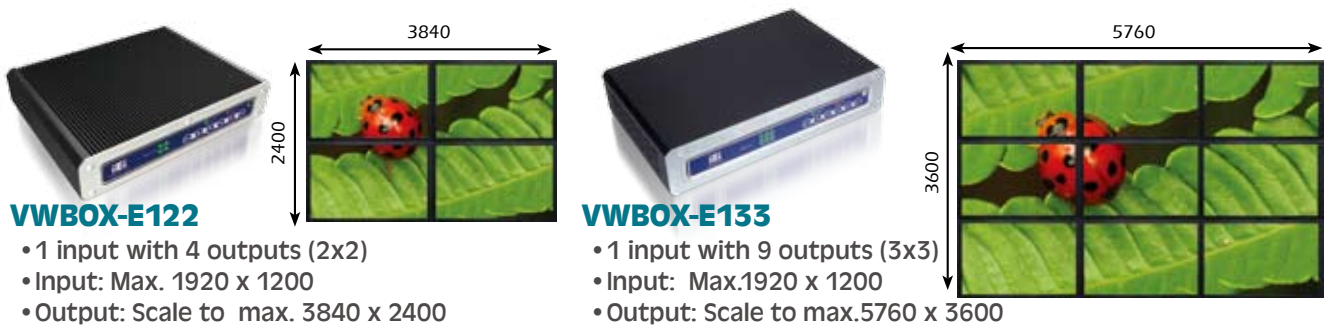


IEI VWBOX Wall Mount Kit



IEI VWBOX Matrix & System Architecture

Full HD Resolution



Full HD Input Content Support (Input Up to 1920 x 1200)



- Digital Signage
- Blu-ray Player (*None HDCP)
- PC

Supported Output Resolution:

2048 x 1536, 2720 x 1536, 2560 x 2048, 2800 x 2100, 3320 x 2100, 3200 x 2400, 3840 x 2400...etc

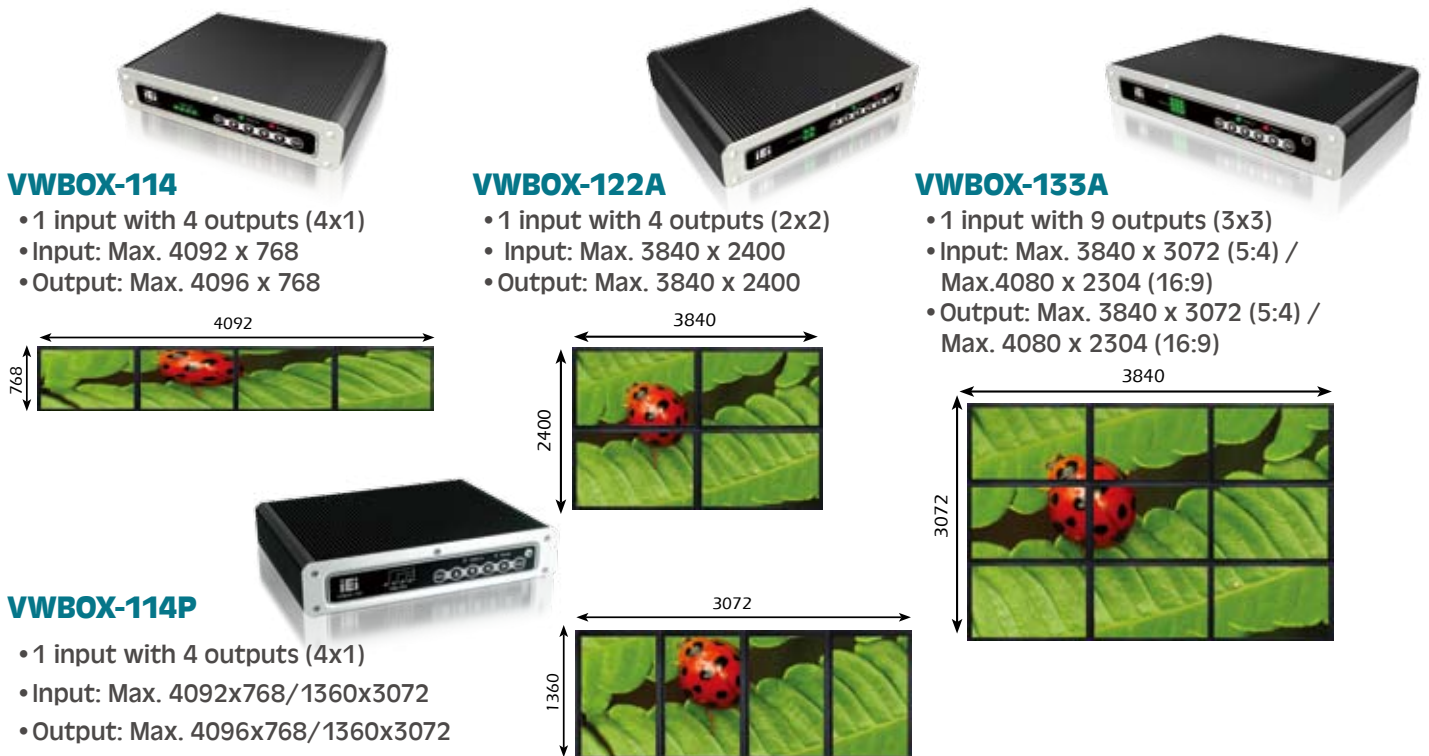


VWBOX-E122



Full-Screen Display on the 2x2 video wall

Ultra High Resolution



High-Resolution Input Support

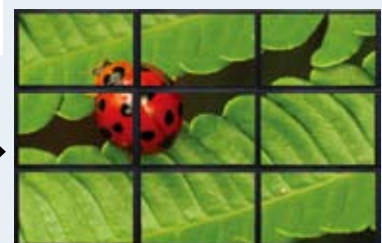


PC & 1 graphic card

STEP 1: PC receives the VWBOX's EDID information via DDC interface on DVI port



STEP 2: User sets up the matching resolution on PC's graphic card based on VWBOX's EDID information



High-Resolution Image on the 3x3 Video Wall

VW-DEMOKIT

Modularized Video Wall Development Cart



4x1 Content Display Zone

Perfect for landscape images and flash

4x4 Content Display Zone

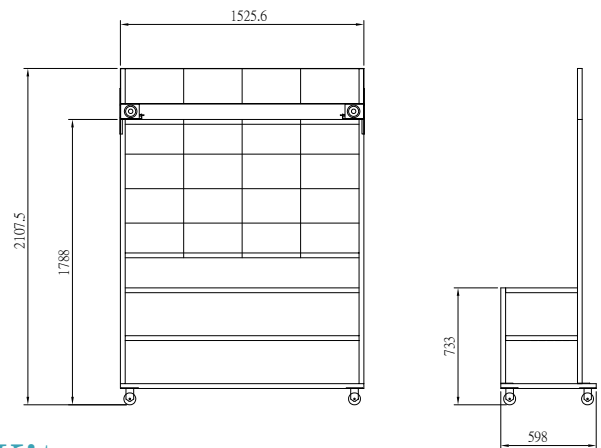
- Best suited for displaying images, video files and webpages
- Flexible selection of 2x2 / 3x3 display content when connecting different IEI video boxes
- Twenty 15.6" LCD monitors with 1366 x 768 resolution, suitable for general TV playback

Multi-Layer Working Tables

(* Video boxes and input devices are not included)

- Layer 1 : IEI video wall controllers
- Layer 2 : Input devices
- Layer 3 : Product catalogues for demonstration purposes

Dimensions



5 Reasons to Get the Demonstration Kit

➔ Integrated Multi-Purpose Cart for Easy Content Development

The IEI video box demonstration kit is built with twenty 15.6" LCD monitors, with a resolution of 1366 x 768 per monitor. The demonstration kit provides engineers with a content design platform. Real-time display of content on multiple monitors allows instant feedback and quicker design times.



⚡ Quick Installation

The design of the demonstration kit allows quick installation, and the design allows all the cables to be tucked neatly away into the frame.

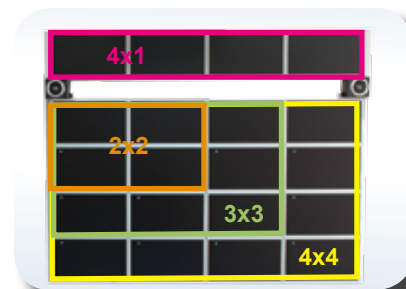


⚡ Designed for Mobility

The demonstration kit comes with four wheels so it can be moved around easily for customer demonstrations. The cables are also tucked away for even easier movement.

➔ Suitable for Designing any Video Wall Setup

The video wall demonstration kit supports any video wall combination that can fit in the 4x4 monitor setup. The video display can be altered by changing the connected video boxes and connecting them to different monitors.



← Multiple Shelves for Hassle-Free Movement

Three shelves give plenty of space for all equipment necessary for product demonstration. The top shelf is for the video boxes. The middle shelf layer is for any input devices or peripherals, like digital signage players, a PC or gaming console. The bottom layer is for product catalogues or other design tools.



Video Wall Demonstration Kit

Packages

The digital signage package includes a management server, a digital signage player and content creation software. Combining the digital signage equipment with the video wall demonstration kit, designing customized content for video walls is a breeze.

Recommend Package for VW-DEMOKIT

Item	Packing List
VW-COMBO	- VWBOX-122A-R10 x 1 pcs - VWBOX-E122/DVI-R10 x 4 pcs - VWBOX-114-R10 x 1 pcs 7F000-WFPX9600GTSFANPIPE x 1 pcs - ISIGNAGER-1000-Q354/E8400/2GB/320G-R10 x 1 pcs - IS-ADMIN-BOX-P651/DESKTOP/BASIC-R10 x 1 pcs



Ordering Information

Item	Description	Packing List
VW-DEMOKIT	Video Wall demo kit, including 20pcs (4x4 plus 4x1) 15.6" LCD monitors	15.6" Panel x 20 pcs - Single-Link DVI Cable x 20 pcs - Video Wall Demo Cart (Metal) x 1 set

Options

Item	Description
VWBOX-E122/DVI-R10	Up to 1920 x 1200 input resolution , 2 by 2 Video Wall Control BOX, 1 x DVI Input, 4 x DVI Output
VWBOX-E133-R10	Up to 1920 x 1200 input resolution , 3 by 3 Video Wall Control BOX, 1 x DVI Input, 9 x DVI Output
VWBOX-122A-R10	Up to 3840 x 2400 input resolution, 2 by 2 Video Wall Control BOX, 1 x DVI Input, 4 x DVI Output
VWBOX-133A-R10	Up to 3840 x 3072 input resolution, 3 by 3 Video Wall Control BOX, 1 x DVI Input, 9 x DVI Output
VWBOX-114-R10	Up to 4092 x 768 input resolution, 4 by 1 Video Wall Control BOX, 1 x DVI Input, 4 x DVI Output
7F000-WFPX9600GTSFANPIPE	VGA Card, nVidia Geforce 9600GT PCIe x 16 Graphic card, 512MB, Dula-Link DVI x 2, RoHS
ISIGNAGER-1000-Q354/E8400/2GB/320G-R10	X86 Digital Signage Player with Intel® Core™ 2 Duo 3.0GHz/ 6MB L2 cache Processor E8400, 2GB DDR2 memory, 4GB CF card with built-in Windows Embedded XP Standard OS, 3.5" SATA HDD 320G,built-in 802.11 b/g wireless LAN, Black color, RoHS
IS-ADMIN-BOX-P651/DESKTOP/BASIC-R10	iSignager AdMinistrator V4.X with Embedded System Intel® Pentium® 4 3.4GHz/ 2MB L2 cache Processor 651, 1GB DDR2 memory, built-in 2.5" HDD 160G, with Windows Embedded XP Pro OS, with CD & license for 10 players, Silver color, RoHS

Flexible Expansion

To create a truly large video wall with minimum resources, the video boxes can be connected in series to easily expand to a really large setup as shown in the diagrams below.

Advantage

STEP1

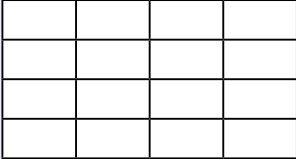
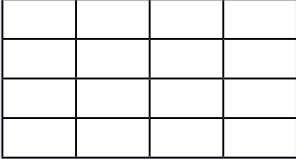
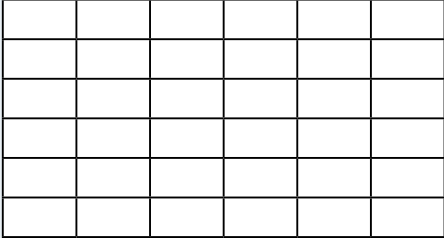
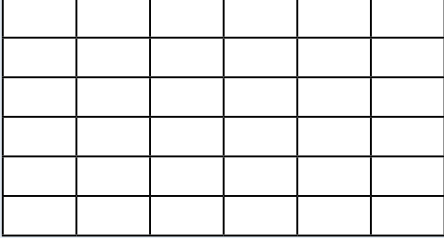
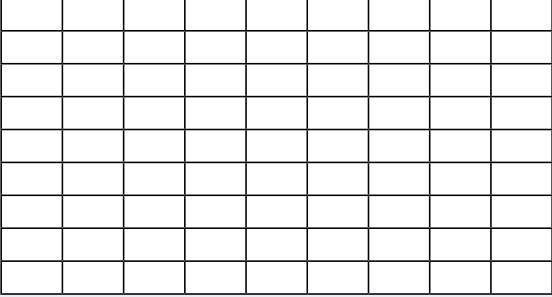
Choose the Video Wall Matrix

STEP2

Choose the Input Resolution

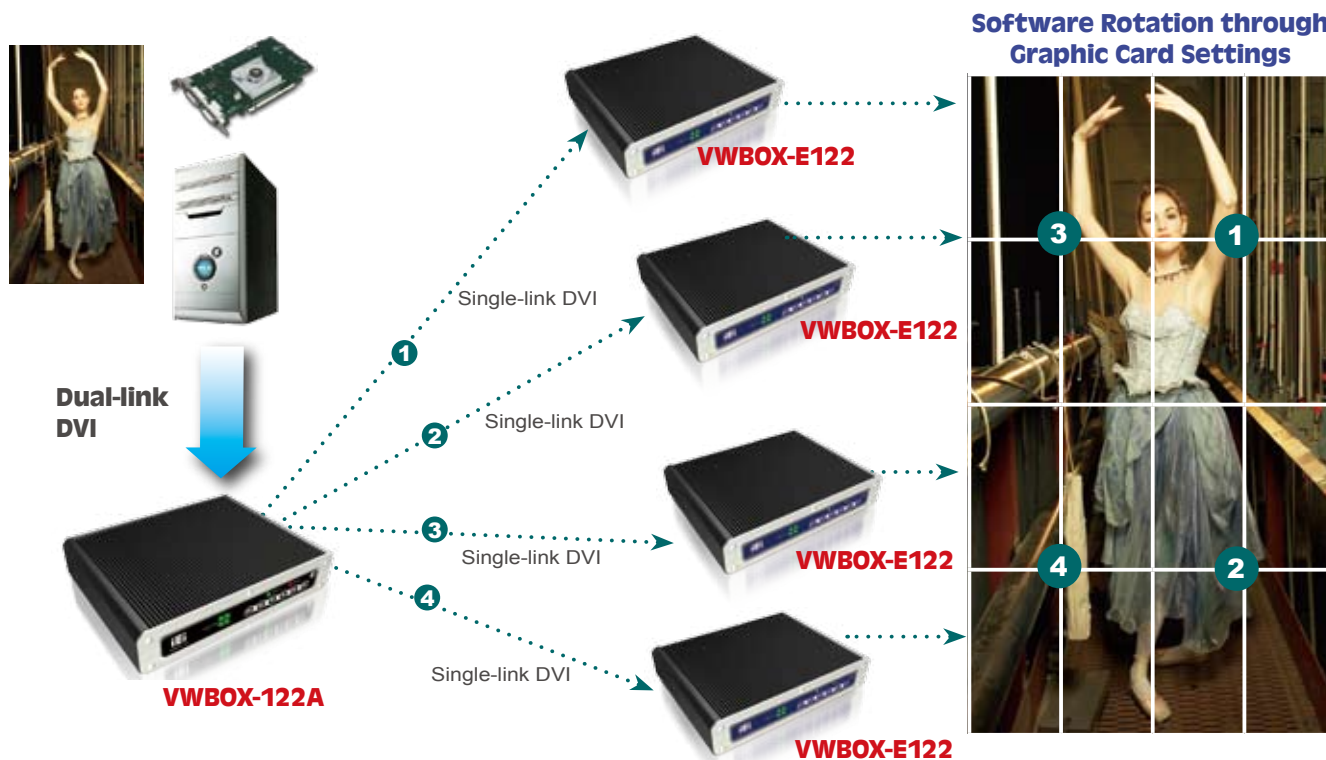
STEP3

Decide the VWBOX Connection

Choose the Video Wall Matrix	Choose the Input Resolution	First Layer	Second Layer
4 x 4 	Max. Image Resolution: 1920 x 1200 Image Input Cable: Single-link DVI-D Image Output Cable: Single-link DVI-D	VWBOX-E122 	VWBOX-E122 x 4 pcs 
4 x 4 	Max. Image Resolution: 3840 x 2400 Image Input Cable: Dual-link DVI-D Image Output Cable: Single-link DVI-D	VWBOX-122A 	VWBOX-E122 x 4 pcs 
6 x 6 	Max. Image Resolution: 1920 x 1200 Image Input Cable: Single-link DVI-D Image Output Cable: Single-link DVI-D	VWBOX-E133 	VWBOX-E122 x 9 pcs  ...Total 9 pcs
6 x 6 	Max. Image Resolution: 3840 x 3072 Image Input Cable: Dual-link DVI-D Image Output Cable: Single-link DVI-D	VWBOX-133A 	VWBOX-E122 x 9 pcs  ...Total 9 pcs
9 x 9 	Max. Image Resolution: 3840 x 3072 Image Input Cable: Dual-link DVI-D Image Output Cable: Single-link DVI-D	VWBOX-133A 	VWBOX-E133 x 9 pcs  ...Total 9 pcs

16-Panel Video Wall for Portrait Image Application

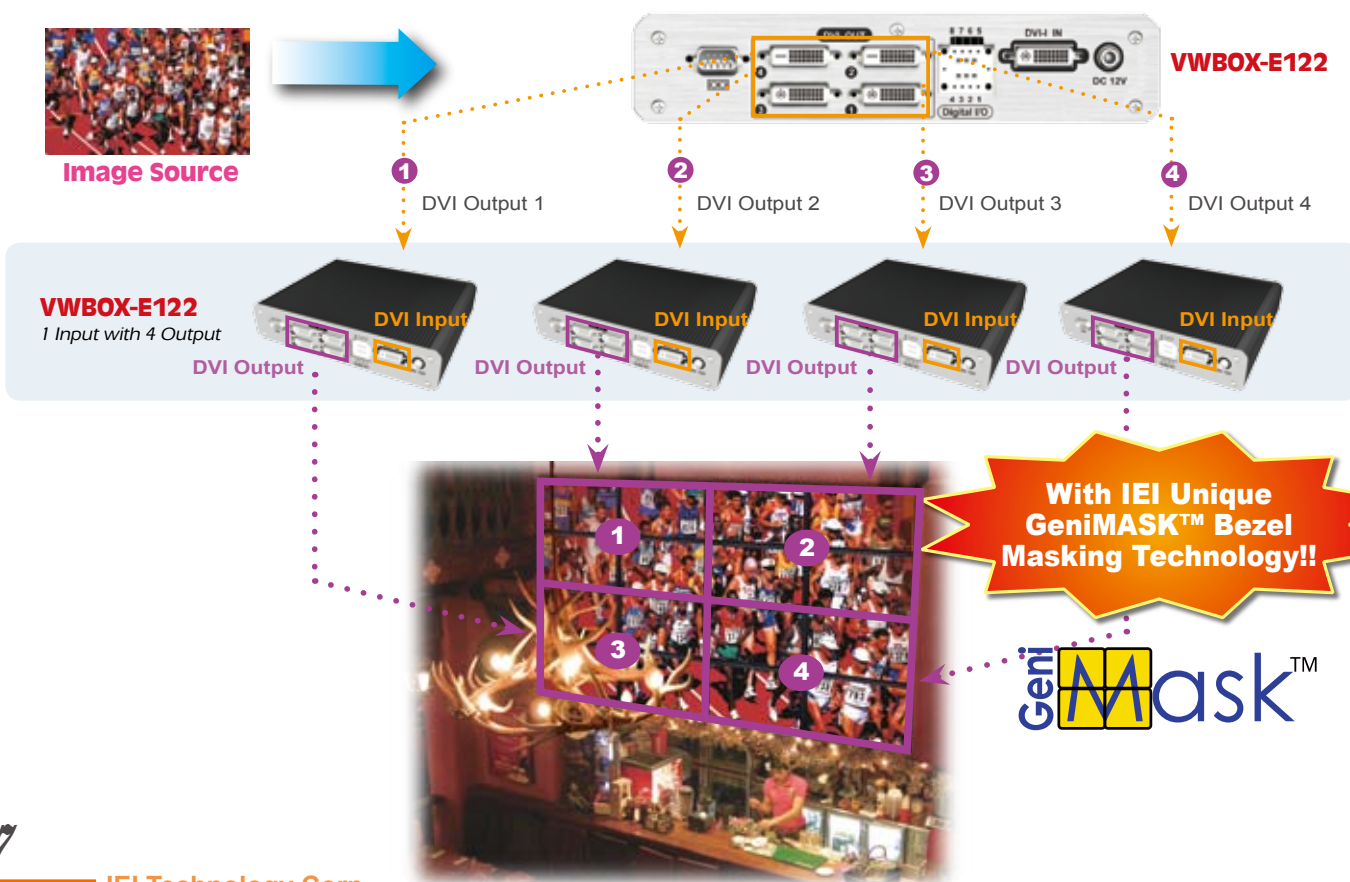
The connection between IEI's VWBOX-122A and VWBOX-E122 expands the video wall to 16 screens. With the easy graphic card set up, the video wall can be software rotated into portrait mode, perfect for vertical image display.



16-Panel Video Wall in Restaurant

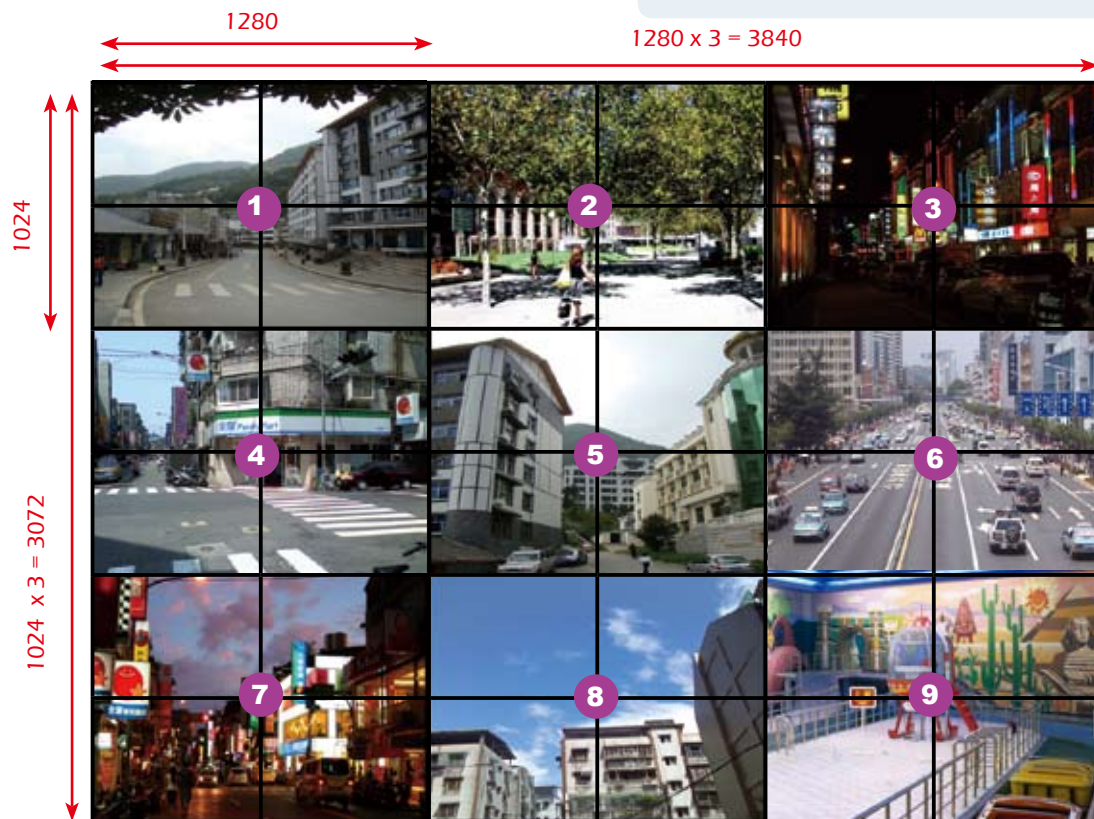
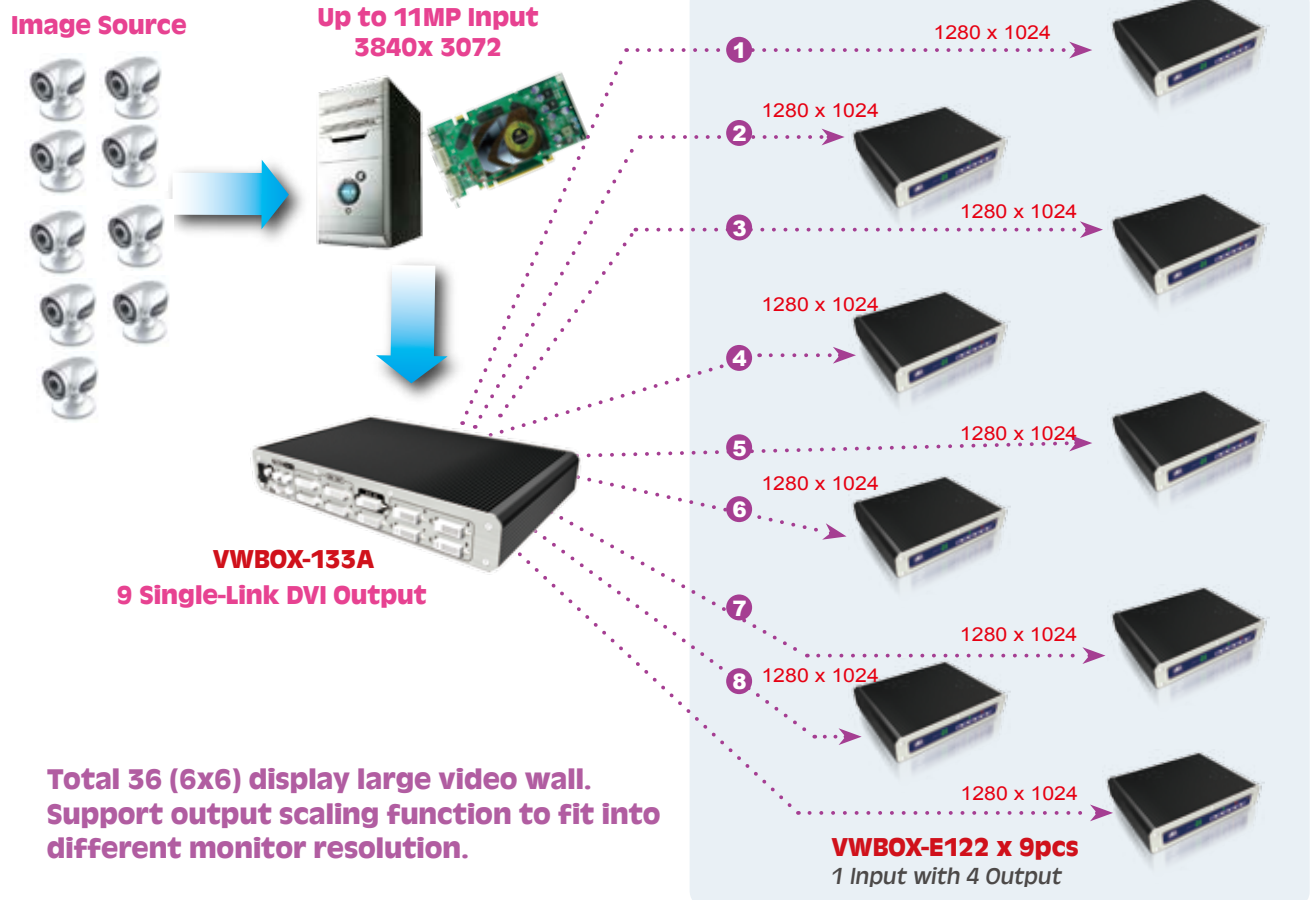
Full HD Video Content Support

Combining five VWBOX-E122 video controllers allows the setup of a 16 panel video wall array. Having 16 monitors allows a very large video wall to utilize very small and inexpensive monitors.



36-Panel Video Wall for Security Monitoring Application

Combining one IEI's VWBOX-133A and nine VWBOX-E122 expands the video wall architecture up to 36 screens, bringing high-resolution video content and cost-effective advantage to large-scale display wall for security monitoring application.



Easy Graphic Card

Set Up Process

STEP1 Connect Your Video Wall To The IEI VWBOX

» According to the final image, set up the monitors in sequence

*Remark: The number is the DVI output port number on VWBOX for 90° clockwise rotation video wall setup, and the number in () is for 90° counterclockwise rotation. The rotation may vary depending on the support of graphic card & its driver.



VWBOX-122A

Landscape (2x2)

1	2
3	4

Portrait* (2x2)

3 (2)	1 (4)
4 (1)	2 (3)



VWBOX-114

Landscape (3x1)

1	2	3
---	---	---

Landscape (4x1)

1	2	3	4
---	---	---	---

Portrait* (1x3) Portrait* (1x4)

1 (3)	1 (4)
2 (2)	2 (3)
3 (1)	3 (3)
	4 (1)



VWBOX-133A

Landscape (3x3)

1	2	3
4	5	6
7	8	9

Landscape (2x3)

1	2
4	5
7	8

Landscape (3x2)

1	2	3
4	5	6

Portrait* (3x3)

7 (3)	4 (6)	1 (9)
8 (2)	5 (5)	2 (8)
9 (1)	6 (4)	3 (7)

Portrait* (3x2)

7 (2)	4 (5)	1 (8)
8 (1)	5 (4)	2 (7)

Portrait* (2x3)

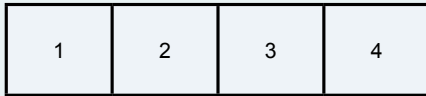
4 (3)	1 (6)
5 (2)	2 (5)
6 (1)	3 (4)

▼ Landscape Set Up

Landscape Monitor (3x1) / Horizontal Span

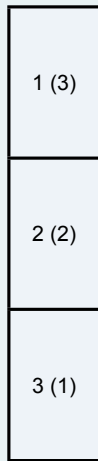


Landscape Monitor (4x1) / Horizontal Span



* Portrait Monitor (1x4) / Vertical Span

* Portrait Monitor (1x3) / Vertical Span

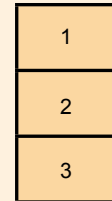


VWBOX-114P

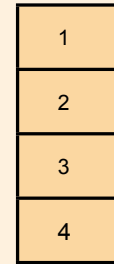


▼ Portrait Set Up

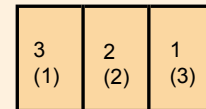
Landscape Monitor (1x3) / Vertical Span



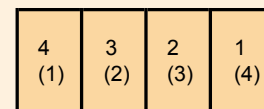
Landscape Monitor (1x4) / Vertical Span



* Portrait Monitor (3x1) / Horizontal Span



* Portrait Monitor (4x1) / Horizontal Span



STEP2 Set Up Graphic Card- Resolution

» According to the image input, set up the resolution

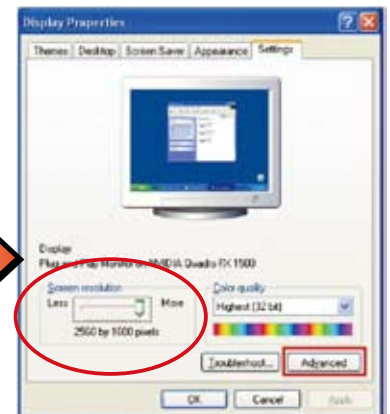
Important !!



Go to Windows Desktop for windows resolution setting and select " Advanced "



Select the " Monitor " Tab and make sure the check box of " Hide modes that this monitors cannot display " is unchecked

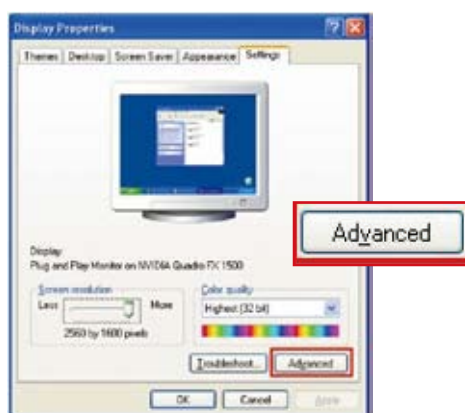


Go back to the resolution setting and there should be 2560 x 2048 resolution option available in " Screen resolution " .

STEP3 Set Up Graphic Card- Rotation (For Portrait Video Wall Set Up)

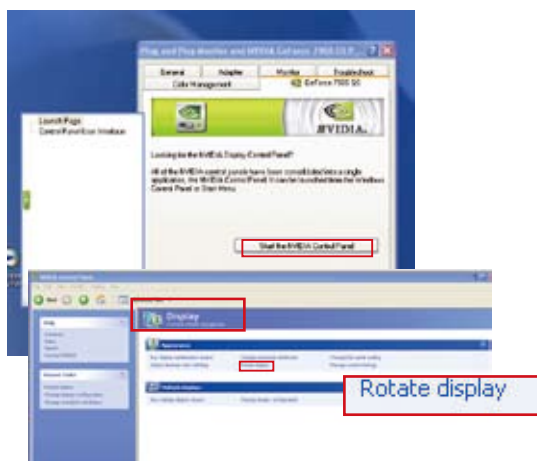
▼ nVIDIA

1.



Click mouse right button or enter "Settings" and select "Advanced" to go to "nVIDIA Control Panel"

2.



Enter "Display" and select "Rotate Display"

3.



Choose "how to rotate" by video wall set up. If the rotation of video wall is 90° clockwise at step 1, rotate 90° counterclockwise(or 270°) for the windows desktop. If the rotation of video wall is 90° counterclockwise at step 1, rotate 90° clockwise for the windows desktop.

▼ ATI

1.



Click mouse right button or enter "Settings" and select "Advanced" to go to "ATI Catalyst Control Center"

2.



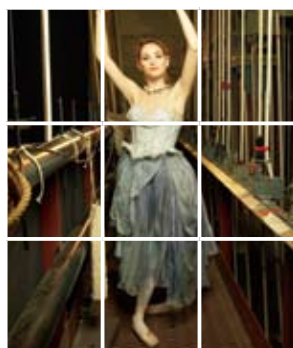
Enter "ATI Catalyst Control Center" and Select "Display Properties"

3.



(1) Setting Desktop number: DVI-1 or 2
(2) Choose the rotation(0° / 90° / 180° / 270°) by video wall set up.
If the rotation of video wall is 90° clockwise at step 1, rotate 90° counterclockwise(or 270°) for the windows desktop. If the rotation of video wall is 90° counterclockwise at step 1, rotate 90° clockwise for the windows desktop.

4.

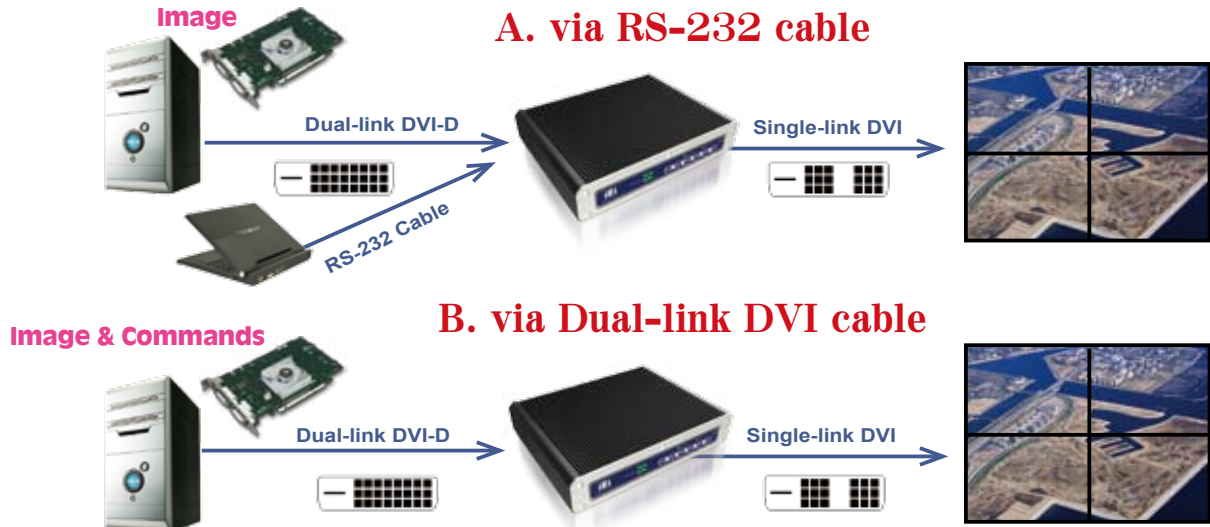


View the Final Image

Remote Control

Video box settings can be adjusted directly through the DVI cable or an RS-232 cable. This allows all settings to be changed through a computer, rather than needing to physically change the video box settings at the box.

Advantages

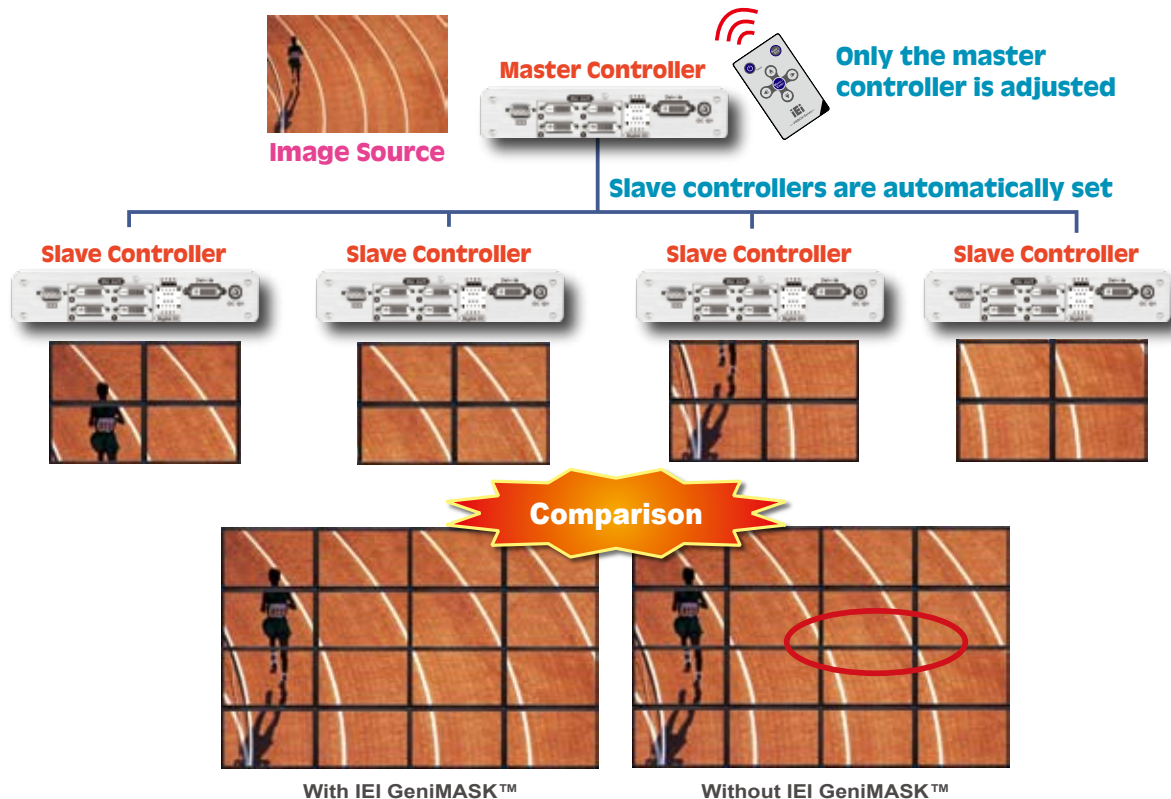


Bezel Masking Setting

IEI Unique GeniMASK™ Technology



GeniMASK™ adjusts the mask settings of all the video box controllers. Adjusting each video box individually is time-consuming, but with GeniMASK™ technology, and the included remote control, they can all be adjusted as easily as changing channels on a TV. No need for separate adjustments, just set once, and it's done.



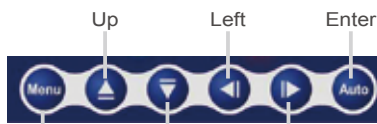
GeniMASK™ Adjustment

IEI provides three utilities to adjust the mask setting. Turn on the "Mask Control" and set up the "Mask Value".

1. By IR Remote Control



2. By Hardware OSD Keypad



(Hotkeys for VWBOX-E122/E133:
• Factory reset : Left+Auto
• Lock /Unlock key: Right +Auto)

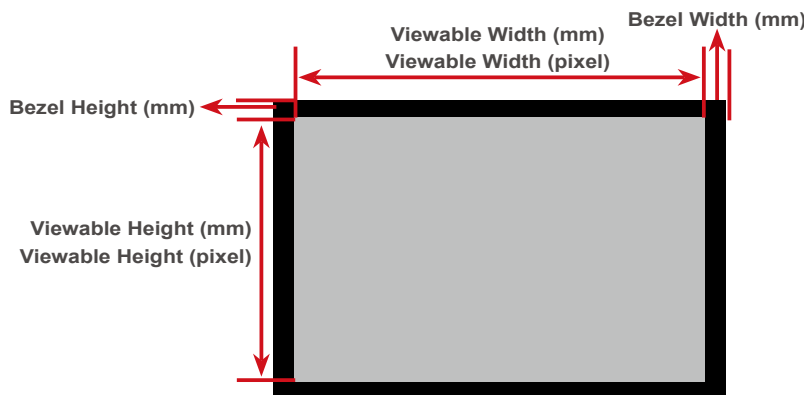
3. By Smart Software OSD (via DDC/RS-232 interface)



For VWBOX-E122/E133



For VWBOX-114/122A/133A

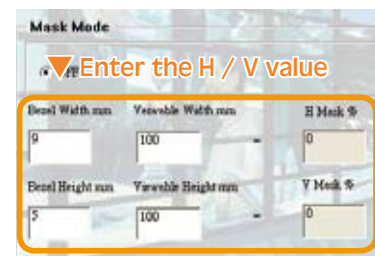


Type 1: Set Up the H/V Mask Value (for VWBOX-E122 /E133 Series)

Calculate the H/V Mask Value

$$\text{Value of H(\%)} = \frac{\text{Bezel Width (mm)}}{\text{Viewable Width (mm)}} \times 100$$

$$\text{Value of V(\%)} = \frac{\text{Bezel Height (mm)}}{\text{Viewable Height (mm)}} \times 100$$



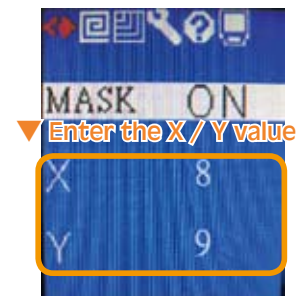
OSD menu for VWBOX-E122/E133

Type 2: Set Up the X/Y Mask Value (for VWBOX-114/122A/133A Series)

Calculate the X/Y Mask Setting

$$\text{Value of X} = \frac{\text{Bezel Width (mm)}}{\text{Viewable Width (mm)}} \times \frac{\text{Viewable Width (pixel)}}{4}$$

$$\text{Value of Y} = \frac{\text{Bezel Height (mm)}}{\text{Viewable Height (mm)}} \times \frac{\text{Viewable Height (pixel)}}{4}$$

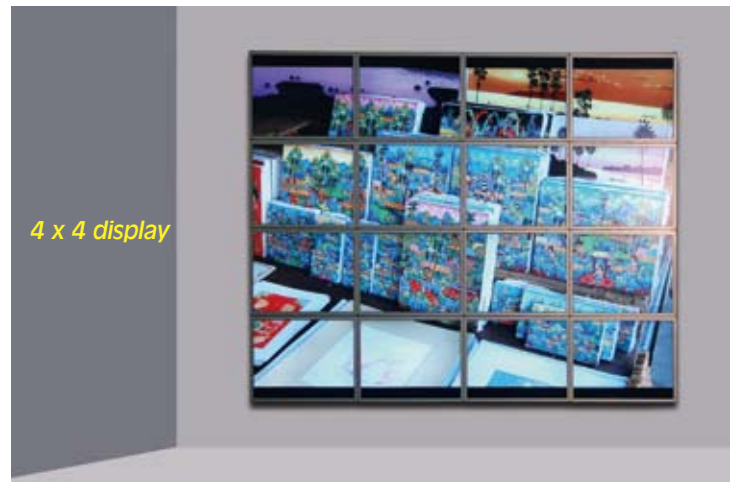
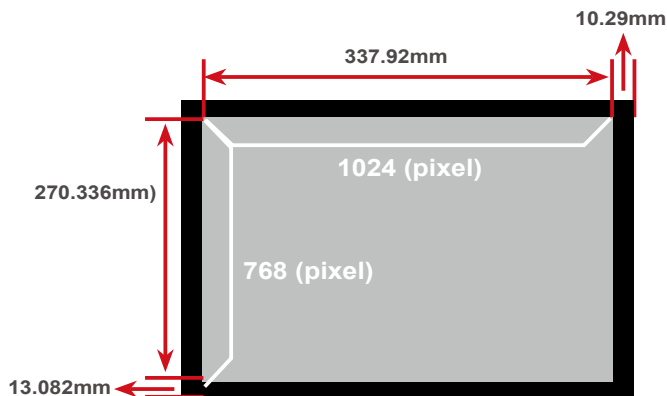


OSD menu for VWBOX-114/122A/133A

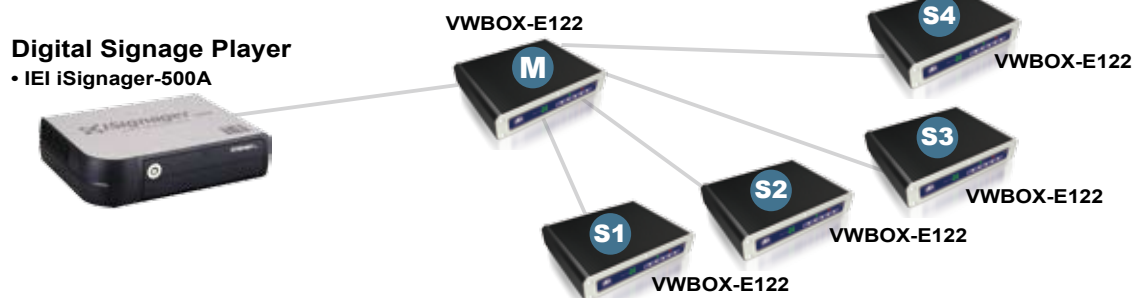
16-Panel (4x4) Video Wall

Let's see two examples for the connection between IEI VWBOX series for 16-panel video wall. The video wall is built-up by 16pcs of 17" LCD. The LCD physical dimension & resolution is as below.

Examples



Example 1: Master Controller: VWBOX-E122 Slave Controllers: 4 x VWBOX-E122



STEP1 Select Mask On



STEP2 Calculate & Enter the Mask Value

Set only once on the master controller and the slave controllers are automatically adjusted

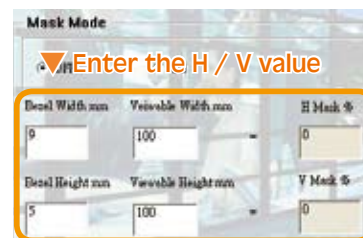
For Master Controller

$$\text{Value of H(\%)} = \frac{10.29}{337.92} \times 100 = 3(\%)$$

(Player M)

$$\text{Value of V(\%)} = \frac{13.082}{270.336} \times 100 = 4(\%)$$

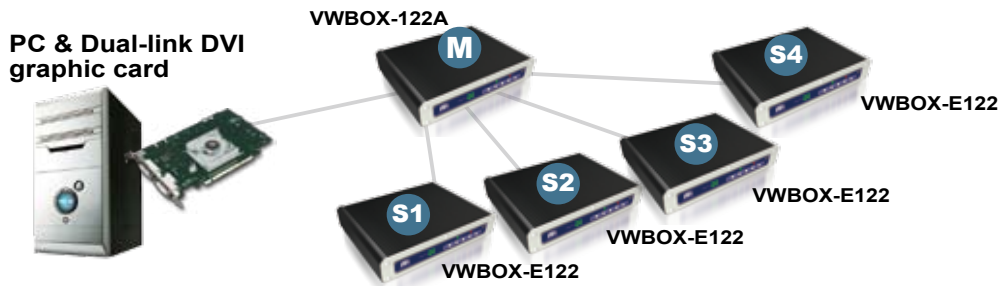
(Player M)



~ No need to set mask on S1-S4 ~

STEP3 Mask Setting is Complete

**Example 2: Master Controller: VWBOX-122A
Slave Controllers: 4 x VWBOX-E122**



STEP1 Select Mask On / Off



STEP2 Calculate & Enter the Mask Value

- (1) Set only once on the master controller & choose "LNK On".
The slave controllers are automatically adjusted with the master controller.



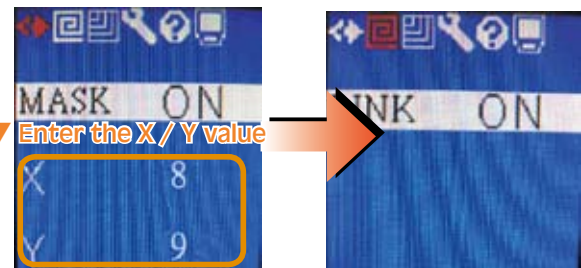
For Master Controller

$$\text{Value of X} = \frac{10.29}{337.92} \times \frac{1024}{4} = 8$$

(Player M)

$$\text{Value of Y} = \frac{13.082}{270.336} \times \frac{768}{4} = 9$$

(Player M)



~ No need to set mask on S1-S4 ~

- (2) Set up the master & slave controllers separately according to various display images by choosing "LNK OFF"

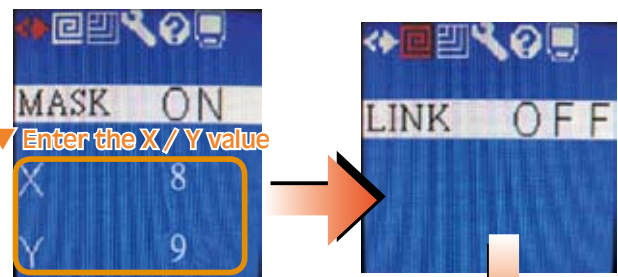
For Master Controller

$$\text{Value of X} = \frac{10.29}{337.92} \times \frac{1024}{4} = 8$$

(Player M)

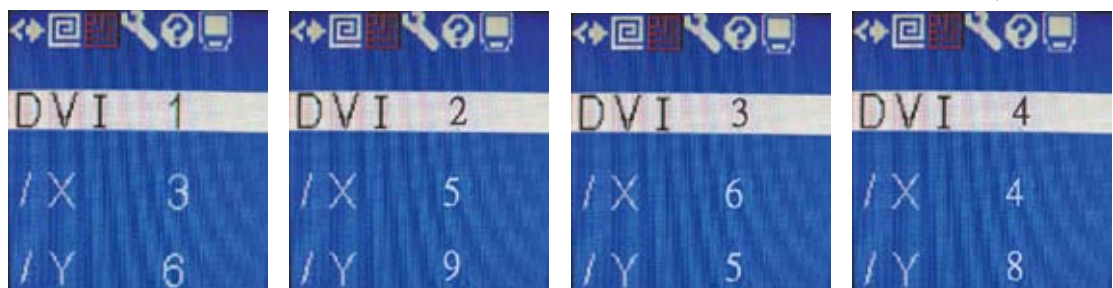
$$\text{Value of Y} = \frac{13.082}{270.336} \times \frac{768}{4} = 9$$

(Player M)



For Slave Controllers

Set up mask value separately from DVI output 1 to DVI output 4



STEP3 Mask Setting is Complete

Digital Signage Video Wall

Solution



VWBOX-E122
Video Wall Controller



iSignager-1000
Digital Signage Player

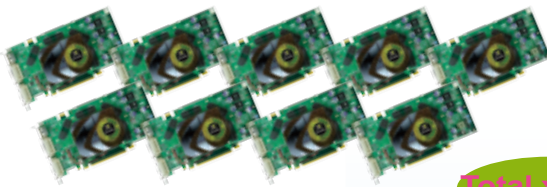


The iSignager is the perfect match for the IEI video box. The iSignager features a high-performance CPU for playing high quality videos with ease. The iSignager also features the iSignager AdMinistrator software which is for easily designing display screens with photos, videos and banners.

IEI's Advantage

Assign multiple images to the displays quickly via IEI VWBOX splitter function. Only one PC input, 16 displays with individual content are easily built up, saving the total installation cost.

Traditional Topology for Video Splitter



Total x 9pcs

DVI Output



IEI's Topology for Video Splitter



Dual-link DVI Input

Only x 1pc



VWBOX Series

Single-link DVI Output



	PC	Graphic Card	Image Input	Combination
IEI Video Wall Solution	Only 1 compact size PC	Only 1 graphic card	One plug between PC and VWBOX via 1 Dual-link DVI cable	Extended
Traditional PC-Based Video Wall Solution	1 large-size PC with multiple expansion slots	Multiple	Complicated processing by multiple graphic boards	Limited

Digital Signage Video Wall System Architecture



iSignager-1000

Input:
IEI iSignager-1000 Series
Digital Signage Player & 1 Cost-Effective Dual-link DVI Graphic Card

1 Dual-Link
DVI Input

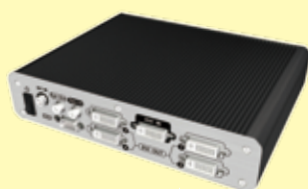
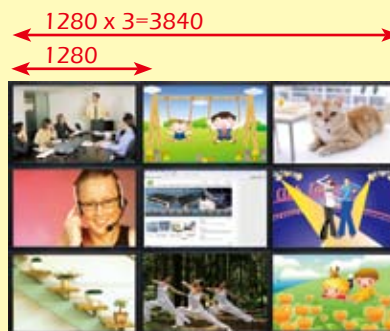
High-Resolution Video Wall Splitter



VWBOX-133A

Up to 11MP (3840x 3072, 5:4)/
9.4MP (4080x 2304, 16:9) Input

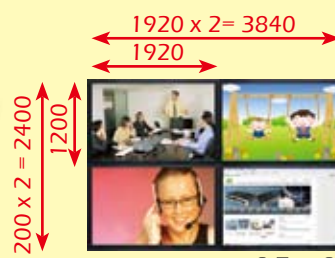
9 Single-Link
DVI Output



VWBOX-122A

Up to 9.2MP (3840x 2400) Input

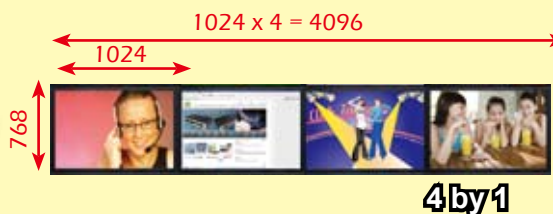
4 Single-Link
DVI Output



VWBOX-114

Up to 3.2MP (4092x 768) Input

4 Single-Link
DVI Output



VWBOX DDC Command

IEI provides software OSD customization utility, including **DDC Command**, bringing easier software development advantage. Customers can easily create the software to control the video wall settings, including "power mode control", "GPIO control", "mask setting", "OSD customization" and "display resolution settings". The customized software facilitates the large-scale video wall set up and allows remote control management through a central computer.

Model Name	Type	VCP opcode	Opcode Names	High Byte	Low Byte (*1)	Description
VWBOX-E122 / E133	R/W	B1h	Display Mode	X	0~6	set/get value : 0:1x1, 1:1x2, 2:2x2, 3:mode1, 4:mode2, 5:mode3, 6:mode4
	R/W	B2h	Mask Mode	Bit 8-14: 0~100 Bit 15: 0~1	Bit 0-6: 0~100	set/get value : H percent:high byte, V percent:low byte, Mask control:bit 15 0:off 1:on
	W	fbh	Identify Monitors (show ID)	X	0~8	Low byte : ID number
VWBOX-122A	R/W	0xE9	Border X	0~4	0~16	HiBYTE same as 0xb2, LowBYTE Set VWBOX border X(see Figure1)
	R/W	0xEA	Border Y	0~4	0~12	HiBYTE same as 0xb2, LowBYTE Set VWBOX border Y
	R/W	0xB1	Output Display Mode	X	0~1	HiBYTE Undefined, LowBYTE Change Output Display Mode, 0:VideoWall(2X2), 1:Split (2X1)
VWBOX-133A	R	0xf8	Model ID	X	0~3	HiBYTE Undefined, LowBYTE Read model ID of video wall (0x02:122A, 0x03:133A)
	R	0xE4	FPGA ver	Version No Hi	Version No Lo	HiBYTE, LowBYTE Read FPGA version
	R	0xE5	CPLD ver	Version No Hi	Version No Lo	HiBYTE, LowBYTE Read CPLD version
VWBOX-114	R/W	0xB1	Output Display Mode	X	0~3	HiBYTE Undefined, LowBYTE Change Output Display Mode, 0:1x4, 1:1X3, 2:4x1, 3:3x1
	W	0xE1	Connect Message	X	1	HiBYTE Undefined, LowBYTE Connect Message 5 second
	R/W	0xD6	Power Mode	X	0~1	HiBYTE Undefined, LowBYTE Power On/Off, 0:OFF, 1:ON

* Please contact with IEI for the complete DDC command list

The IEI Content Creation

The IEI iSignager AdDesign V4.0

Advantage

Support High-Resolution Webpage Content

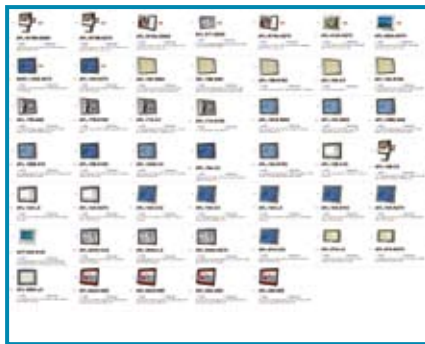
The IEI VWBOX supports ultra-high-resolution webpage content, displaying a single Image with full content on your large-scale video wall. No need to scroll the tool bar or see only the partial images, the IEI video box displays the most detailed web-based content at one time.

Before

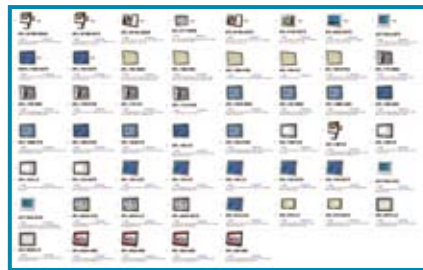


Now By IEI Video Wall Controller

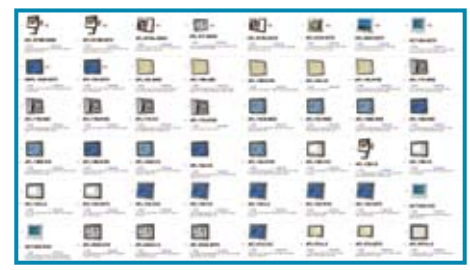
► 3840 x 3072



► 3840 x 2400



► 4080 x 2304



► 4092 x 768



Support Unlimited Multiple Formats of Video Wall Display Content

IEI provides optional iSignager AdDesign V4.x, the content creation and control software, for easy-design your video wall layout. The AdDesign V4.x is an open X86 structure supporting flexible media contents, including webpage, flash, video, text banner for broadcasting. The iSignager AdDesign V4.x flexibly supports 4x1, 2x2, 3x3 or more multiple content zone.

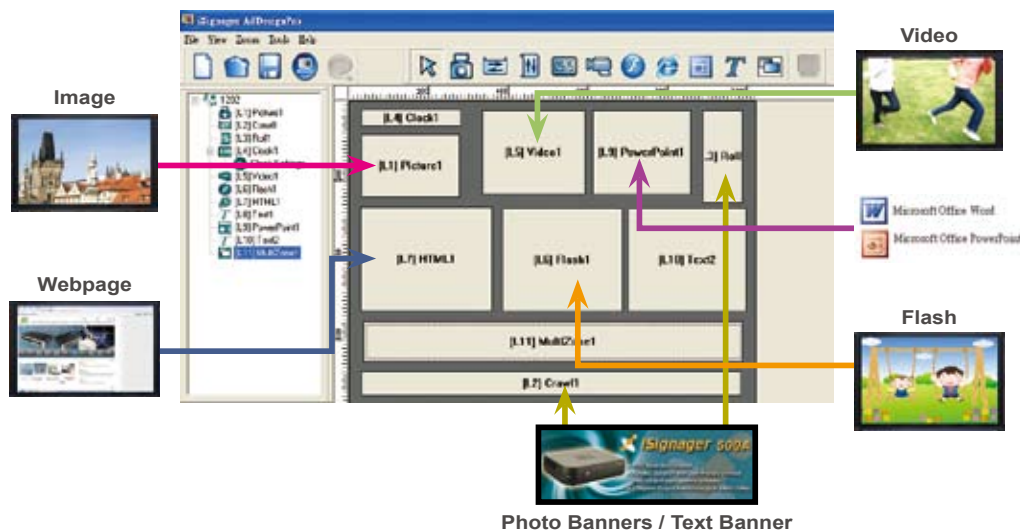


Photo Banners / Text Banner

Quick Allocation of Video Wall Display Content

For General User

→ *Design customized layout by iSignager AdDesign V4.x Software*

The IEI digital signage software "iSignager AdDesign V4.x" allows the multiple content layout design. It is helpful to create a multiple layout for video wall application. Users can easily build the single or traversed or even independent media zones.

Video wall setup

- Resolution setting
- Arrangement setting

Video wall content design

- Full screen single image
- Allocate the layout of multiple images

For Professional User

→ *Define the display area and positions with your own software*

Professional user can define desired size and position of each media zone freely. Your preferred image or content to be shown on the specific display.



3 x 3 Display

(0, 0) 1 (1023, 767)	(1024, 0) 2 (2047, 767)	(2048, 0) 3 (3071, 767)
(0, 768) 4 (1023, 1535)	(1024, 768) 5 (2047, 1535)	(2048, 768) 6 (3071, 1535)
(0, 1536) 7 (1023, 2303)	(1024, 1536) 8 (2047, 2303)	(2048, 1536) 9 (3071, 2303)

2 x 2 Display

(0, 0) 1 (1919, 1199)	(1920, 0) 2 (3839, 1199)
(0, 1200) 3 (1919, 2399)	(1920, 1200) 4 (3839, 2399)

4 x 1 Display

(0, 0) 1 (1023, 767)	(1024, 0) 2 (2047, 767)	(2048, 0) 3 (3071, 767)	(3072, 0) 4 (4095, 767)
-----------------------------------	--------------------------------------	--------------------------------------	--------------------------------------

VWBOX-E122/E133

Video Wall Controller with Scaling Function

The VWBOX-E122/E133 video wall controller with scaling capability allows the input content scaled to the full screen.



VWBOX-E133

- 1 input with 9 outputs (3x3)
- Up to 1920 x 1200 high-resolution input
- Scaling up to 5760 x 3600 high-resolution output

Features

- IEI unique GeniMask™ bezel masking technology
- Support up to 1920 x 1200 input content
- Output content is auto-scaling up to 3840 x 2400 or 5760 x 3600 high resolution
- Support multiple display modes, such as full mode, clone mode, etc.
- Allow remote manage the VWBOX via RS-232 cable or DVI cable
- Easy-to-DIY video wall solution



VWBOX-E122

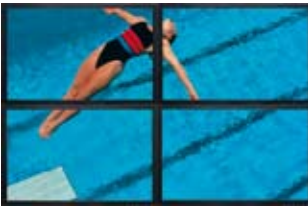
- 1 input with 4 outputs (2x2)
- Up to 1920 x 1200 high-resolution input
- Scaling up to 3840 x 2400 high-resolution output

Support Various Display Modes

Full Mode

Image is spread over the entire display array.

VWBOX-E122 (2x2)



VWBOX-E133 (3x3, 2x3, 3x2, 2x2)



Clone Mode

Same content on four screens

VWBOX-E122 (1x1)



VWBOX-E133 (1x1)



Vertical Replication Mode

Display the same image in rows, for implementing wide video walls

VWBOX-E122 (2x1)



PIP Mode (for VWBOX-E122 Only)



Mode 1

Full image on the upper-left screen



Mode 2

Full image on the upper-right screen



Mode 3

Full image on the lower-left screen



Mode 4

Full image on the lower-right screen

Support HD Content & Scaling Function

IEI VWBOX-E122/E133 with Auto-Scaling Function



Flexible input content resolution, up to Full HD (1920 x 1200).

Auto-scale the input content to full screen



Full screen on 2x2 or 3x3 video wall



VWBOX-E122/E133 auto-scales the input content to the supported resolution:
2048x1536, 2720x1536, 2560x2048, 2800x2100, 3320x2100, 3200x2400, 3840x2400 (for VWBOX-E122)
3072x2304, 4080x2304, 3840x3072, 4200x3150, 4980x3150, 4800x3600, 5760x3600 (for VWBOX-E133)

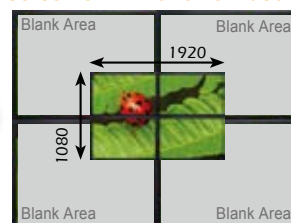
Traditional Video Wall Controller without Scaling Function



Small screen and big blank on video wall



Small screen on 2x2 or 3x3 video wall



Flexible Selection on LCD Monitors

The input resolution of VWBOX-E122/E133 is up to 1920 x 1200. Various monitor resolution is supported by VWBOX-E122/E133, enabling flexible selection on monitors for different video wall applications.

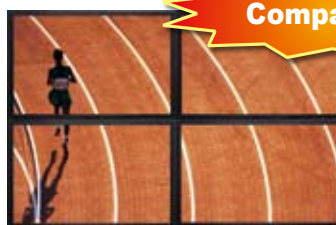
	Source	Resolution
Input	DVI	800 x 600, 1024 x 768, 1152 x 864, 1280 x 768, 1280 x 960, 1280 x 1024, 1600 x 1200, 1680 x 1050, 1920 x 1200
Output	DVI	1024 x 768, 1360 x 768, 1280 x 1024, 1440 x 900, 1400 x 1050, 1680 x 1050, 1600 x 1200, 1920 x 1080, 1920 x 1200, 1366 x 768, 1920 x 1080

IEI Unique GeniMASK™ Bezel Masking Technology



GeniMASK™ sets the bezel mask to compensate for the gaps between monitors in the video wall array. Masking technology gives a contiguous final image, without the gaps unnaturally breaking the image up. These settings are easily adjusted using the included remote control.

Comparison



With IEI GeniMASK™



Without IEI GeniMASK™

IR Remote Control and OSD

The VWBOX-E122/E133 includes an IR remote control for configuring the OSD settings. The OSD adjusts

- Output resolution
- Display mode selection
- Bezel mask adjustment
- Video input source
- Power on/off



IR Remote Control

SmartOSD for Remote Management/ Digital I/O Setting



The SmartOSD remotely manages and controls the VWBOX-E122/E133 via an RS-232 or DDC/CI (DVI cable) interface. The digital I/O settings of the video wall controller can be set through the SmartOSD.



Specifications

		VWBOX-E122/DVI-R10	VWBOX-E133-R10
Dimensions (mm)		230 x 180 x 47 (W x D x H)	295 x 188 x 47 (W x D x H)
Cooling		Fanless	Fan
Front Panel	LED Light	6 x LED (1 x Input, 4 x Output, 1x Power)	11 x LED (1 x Input, 9 x Output, 1 x Power)
	Keypad	6 Keys	6 Keys
	IR Receiver	Yes	Yes
Rear Panel	Input	1 x DVI-I or DVI-D single-link input	1 x DVI-D single-link input
	Output	4 x DVI-D single-link output	9 x DVI-D single-link output
	RS-232	1 x RS-232	1 x RS-232
Resolution		Clone, Full, Vertical Replication Mode	
		Input	Output
		640x480, 800x600, 1024x768, 1280x768, 1360x768, 1366x768, 1152x864, 1440x900, 1280x960, 1280x1024, 1680x1050, 1600x1200, 1920x1080, 1920x1200	1024x768, 1360x768, 1366x768, 1280x1024, 1400x1050, 1680x1050, 1600x1200, 1920x1080, 1920x1200
Power Consumption		20W	35W
Power Supply	Connector	DC Power Jack	DC Power Jack
	Input	90VAC to 264VAC/47Hz to 63Hz	90VAC to 264VAC/47Hz to 63Hz
	Output	12V DC	12V DC
OSD Function		1. Power On/Off 2. Output resolution selection 3. GeniMask bezel masking control	1. Power On/Off 2. Output resolution selection 3. GeniMask bezel masking control
Temperature		0°C ~ 40°C	0°C ~ 40°C
Safety and Emission		CE, FCC, and CCC	CE, FCC, and CCC

Packing List

Item	VWBOX-E122/E133
Video Wall Box	1
12VDC Power Adapter	1
Power Cord	1
IR Remote Control	1
Single-link DVI-D Cable (1.8m)	1
Utility CD with User Manual	1
Mounting Bracket	1 set
Screw Kit	1 set

Options

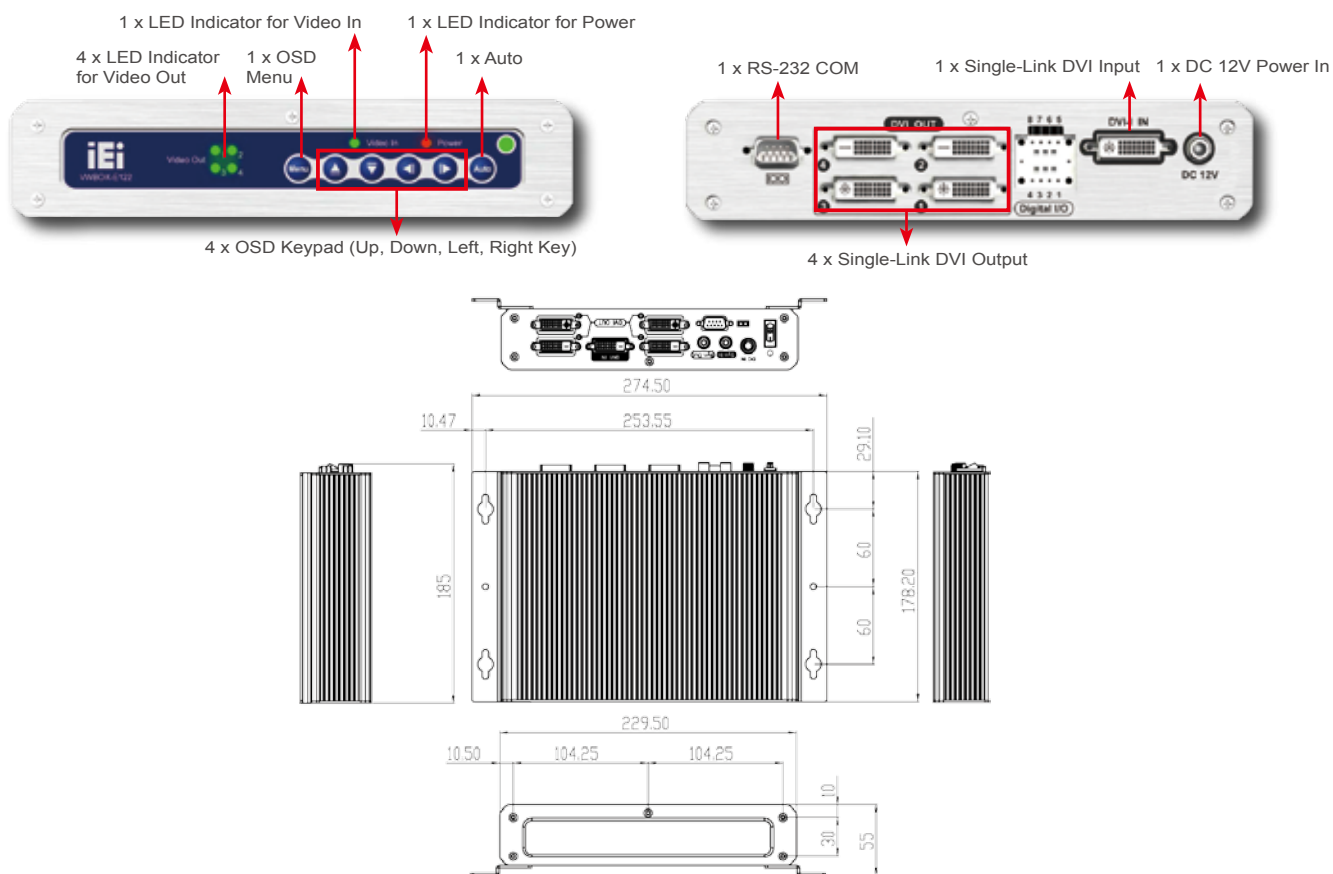
Part No.	Description
32000-116000-RS	Single-link DVI-D Cable 1.8M
32000-114100-RS	Single-link DVI-D Cable 5M
32000-000098-RS	RS-232 cable 1.8M
33Z01-000012-RS	DVI (Male) to HDMI (Female) converter
33Z01-000013-RS	DVI (Female) to HDMI (Male) converter

Ordering Information

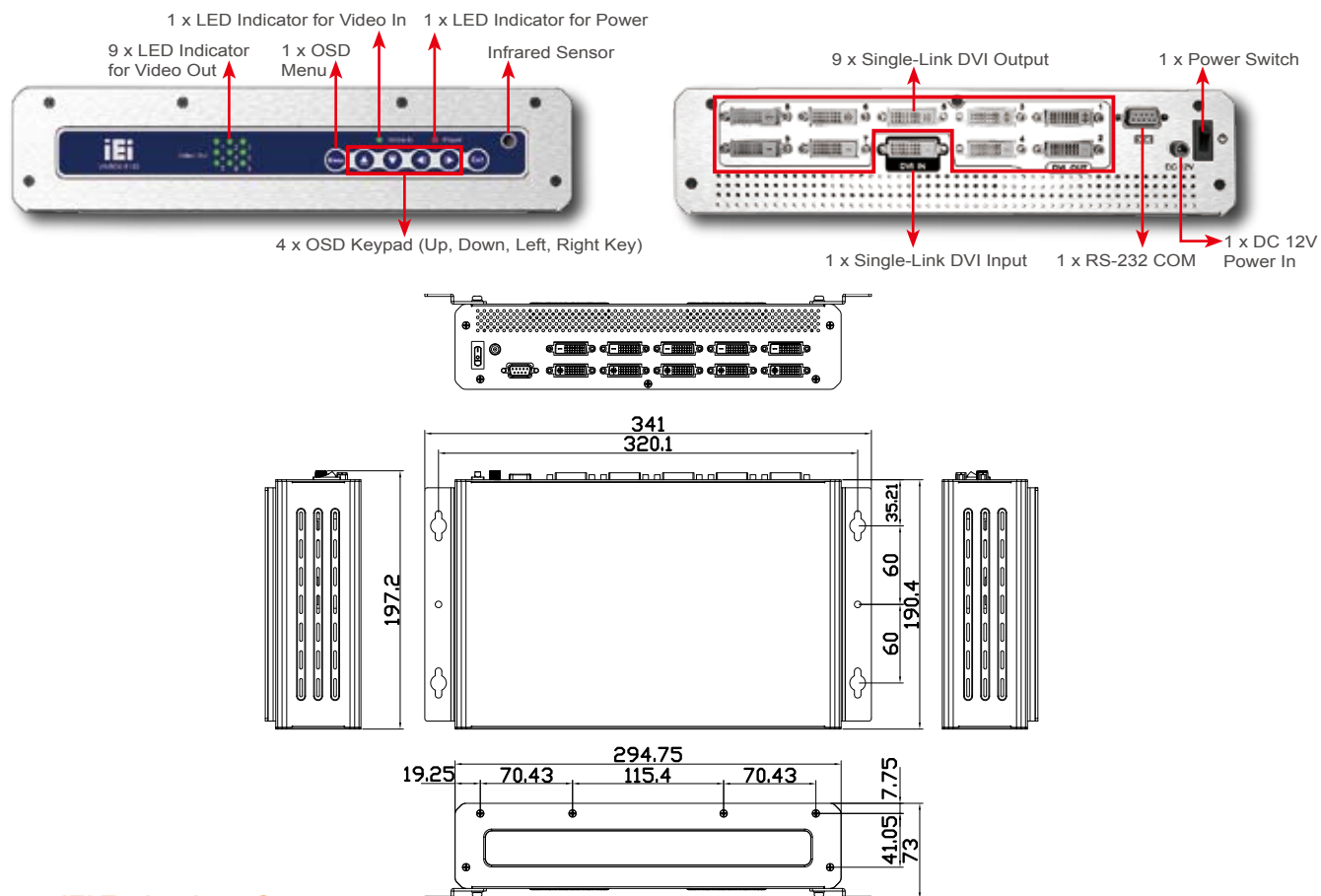
Model Name	Description
VWBOX-E122/DVI- R10	Up to 1920 x 1200 high resolution input video wall controller, 1 Single-link DVI input, 4 Single-link DVI output (2 x 2), RoHS
VWBOX-E133-R10	Up to 1920 x 1200 high resolution input video wall controller, 1 Single-link DVI input, 9 Single-link DVI output (3 x 3), RoHS

Dimensions

VWBOX-E122



VWBOX-E133



VWBOX-114/114P/122A/133A

Video Wall Controller with High-Resolution Input Support

The high-resolution video controllers enable the maximum image quality by mapping the input video pixels directly to the pixels on the connected output channels. Directly splitting the input signal results in a much higher quality image compared to resized or adjusted signal.



VWBOX-133A

- 1 input with 9 outputs (3x3)
- Support (3x3) & (3x2) & (2x3) output selection
- Up to 3840 x 3072(5:4) & 4080 x 2304 (16:9) high-resolution input

Features

- Easy-to-install, flexible combination, cost effective solution
- High-resolution display content input and output
- Non-scaling, pixel-to-pixel mapping advantage
- Single input (Dual-Link DVI) and 4/9 outputs (Single-Link DVI)
- Support various display modes
- IEI unique GeniMask™ bezel masking technology



VWBOX-114P

- 1 input with 4 outputs (4x1)
- Input: Max. 4092x768/1360x3072
- Output: Max. 4096x768/1360x3072



VWBOX-114

- 1 input with 4 outputs (4x1)
- Support (4x1) & (3x1) output selection
- Up to 4092 x 768 high-resolution input

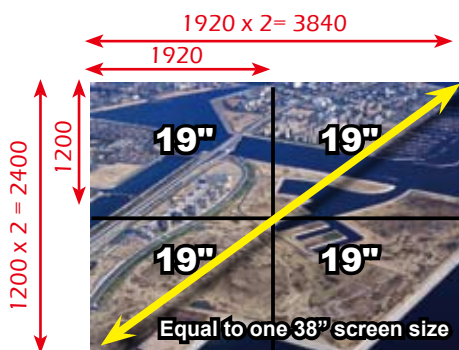


VWBOX-122A

- 1 Input with 4 Outputs (2x2)
- Up to 3840 x 2400 high-resolution input

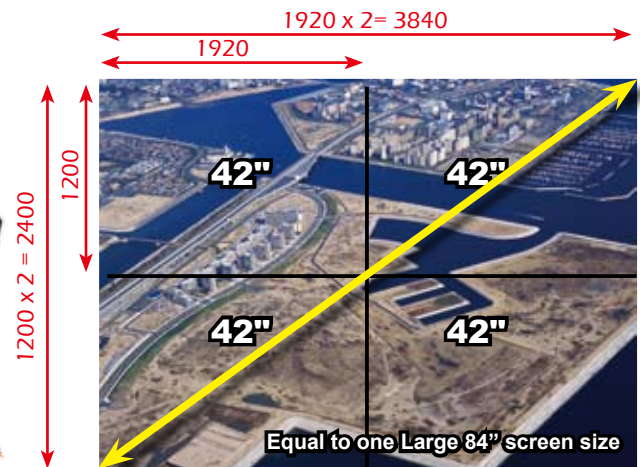
Low Cost Large Screen Displays

IEI's pixel-to-pixel mapping function enables the original high-resolution image displays in super large screens without any resolution loss, ensuring the most delicate display images. IEI's video wall controller allows users to flexibly choose various screen sizes for the display solution to leverage the high-resolution advantage and significantly reducing total cost of ownership for large screen display applications.



Maximum 3840 x 2400
High Resolution

VWBOX-122A



Multiple smaller and lower-cost monitors are used to create a single, large display

IEI Unique GeniMASK™ Bezel Masking Technology



GeniMASK™ sets the bezel mask to compensate for the gaps between monitors in the video wall array. Masking technology gives a contiguous final image, without the gaps unnaturally breaking the image up. These settings are easily adjusted using the included remote control.

Comparison



With IEI GeniMASK™



Without IEI GeniMASK™

Support Various Display Modes

Full Mode

Image is spread over the entire display array. Full mode is available for VWBOX-114/122A/133A.

VWBOX-114 (3 x 1)



VWBOX-114 (4 x 1)



VWBOX-122A (2 x 2)



VWBOX-133A (3 x 3)



VWBOX-133A (3 x 2)



VWBOX-133A (2x 3)



Clone Mode

Same content on four screens. Clone mode is available for VWBOX-122A only.

VWBOX-122A (1 x 1)



Vertical Replication Mode

Display the same images in rows, for implementing wide video walls. Vertical replication mode is available for VWBOX-122A only.

VWBOX-122A (2 x 1)



Flexible Expansion for High-Resolution Video Wall Content

STEP1

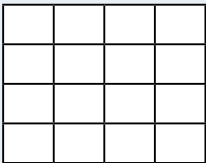
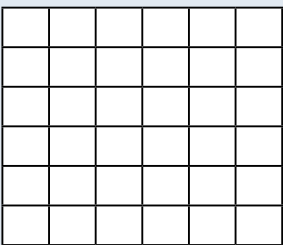
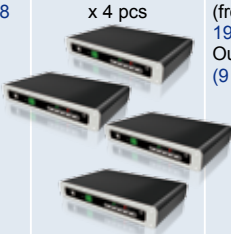
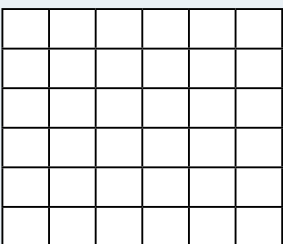
Decide the video wall matrix & the connection for VWBOXs

STEP2

Set Up the Resolution & Output Frequency for Master Controller

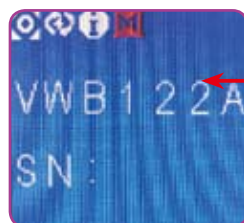
STEP3

Set Up the Resolution & Output Frequency for Slave Controllers

Video Wall Matrix	Master Controller	Resolution (for Master Controller)	Output Frequency (V:Vertical H:Horizontal)	Slave Controllers	Resolution (for Slave Controllers)	Output Frequency (V:Vertical H:Horizontal)
4 x 4 	VWBOX-122A 	Option 1: Input Resolution: 2560 x 1920 Output Resolution: (to Slave Controllers) (4 x1280x960) x 1 Option 2: Input Resolution: 3392 x 1920 Output Resolution: (to Slave Controllers) (4 x1696x960) x 1	Option 1: V(Hz): 68 H(kHz): 65.28 Option 2: V(Hz): 58 H(kHz): 55.58	VWBOX-122A x 4 pcs 	Option 1: Input Resolution: (from Master Controller) 1280 x 960 Output Resolution: (4 x640x480) x 1 Option 2: Input Resolution: (from Master Controller) 1696 x 960 Output Resolution: (4 x848x480) x 1	Option 1: V(Hz): 72 H(kHz): 36 Option 2: V(Hz): 54 H(kHz): 27.92
6 x 6 	VWBOX-122A 	Input Resolution: 3840 x 2880 Output Resolution: (to Slave Controllers) (4 x1920x1440) x 1	V(Hz): 68 H(kHz): 65.28	VWBOX-133A x 4 pcs 	Input Resolution: (from Master Controller) 1920 x 1440 Output Resolution: (9 x640x480) x 1	V(Hz): 72 H(kHz): 36
6 x 6 	VWBOX-133A 	Input Resolution: 3840 x 2880 Output Resolution: (to Slave Controllers) (9 x1280x960) x 1	V(Hz): 68 H(kHz): 65.28	VWBOX-122A x 9 pcs  ...Total 9 pcs	Input Resolution: (from Master Controller) 1280 x 960 Output Resolution: (4 x640x480) x 1	V(Hz): 72 H(kHz): 36

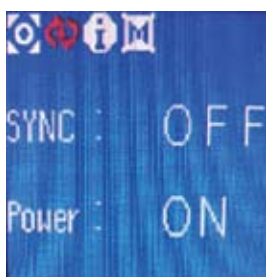
Remote Management Advantage

Software OSD Utility



Manage through iEI IR Remote Control

IEI provides "IR Remote Control" and "Software OSD (via DDC/CI interface)" to remotely controls the VWBOX settings. Every video wall controller also comes with an IR remote control for adjusting the OSD functions, such as power on/off, mask setting, output resolution selection and display mode selection, facilitating remote management for video wall solution.



Power On/Off



Mask Setting



Selection of "Output Resolution" & "Display Mode"



Specifications

		VWBOX-114-R10				VWBOX-114P-R10			
Dimensions(mm) (W x D x H)		230 x 130 x 47				230 x 180 x 47			
Cooling		Fanless				Fanless			
Front Panel	LED Light	6 x LED (1x Input, 4x Output, 1x Power)				6 x LED (1x Input, 4x Output, 1x Power)			
	Keypad	6 Keys				6 Keys			
	IR Receiver	Yes				Yes			
Rear Panel	Input	1 x DVI dual-link Input				1 x DVI dual-link Input			
	Output	4 x DVI single-link Output				4 x DVI single-link Output			
	Power Switch	1 x Power (in) with lock				1 x Power (in) with lock			
	RS-232	1 x RS-232				1 x RS-232			
Resolution		Input	Output	Output Vertical Frequency (Hz)	Output Horizontal Frequency (kHz)	Input Resolution	Output Resolution	"Vertical Hz"	"Horizontal kHz"
		Full Mode (4 x 1)				Landscape mode (4x1)			
		3392x480	(4x848x480) x1	60	31.02	3392x480	4 x 848x480	56	29
		3200x600	(4x800x600) x1	60	37.08	3200x600	4 x 800x600	61	38.4
		3840x600	(4x960x600) x1	60	36	3840x600	4 x 960x600	61	38.4
		4092x768	(4x1024x768) x1	51	48.36	4092x768	4 x 1024x768	60	48.36
		Full Mode (3 x 1)				Landscape mode (3x1)			
		2544x480	(3x848x480) x1	60	31.02	3072x768	3 x 1024x768	60	48.36
		2400x600	(3x800x600) x1	60	37.08	3840x800	3 x 1280x800	58	48.2
		2880x600	(3x960x600)	60	36	3840x1024	3 x 1280x1024	51	55.4
		3072x768	(3x1024x768) x1	51	48.36	4080x768	3 x 1360x768	57	45.32
						Portrait mode (1x4)			
						1024x3072	4 x 1024x768	60	48.36
						1280x3200	4 x 1280x800	58	48.2
						1280x4092	4 x 1280x1024	51	55.4
						1360x3072	4 x 1360x768	57	45.32
						Portrait mode (1x3)			
						1024x2304	3 x 1024x768	60	48.36
						1280x2400	3 x 1280x800	58	48.2
						1280x3072	3 x 1280x1024	51	55.4
						1360x2304	3 x 1360x768	57	45.32
Power Consumption		10W				10W			
Power Supply	Connector	DC Power Jack				DC Power Jack			
	Input	90VAC to 264VAC/47Hz to 63Hz				90VAC to 264VAC/47Hz to 63Hz			
	Output	12V DC				12V DC			
OSD Function		1. Output resolution selection 2. GeniMask bezel masking control 3. Power On/Off				1. Output resolution selection 2. GeniMask bezel masking control 3. Power On/Off			
Temperature		0°C ~50°C				0°C ~ 50°C			
Safety and Emission		CE, FCC				CE, FCC			

Packing List

Item	VWBOX-114/114P/122A/133A
Video Wall Box	1
12VDC Power Adapter	1
Power Cord	1
IR Remote Control	1
Dual-link DVI-D Cable (1.8m)	1
Utility CD with User Manual	1
Mounting Bracket	1 set
Screw Kit	1 set

Options

Part No.	Description
32000-115700-RS	Dual-link DVI-D Cable 1.8M
32000-116000-RS	Single-link DVI-D Cable 1.8M
32000-115800-RS	Dual-link DVI-D Cable 5M
32000-114100-RS	Single-link DVI-D Cable 5M
32000-115900-RS	Dual-link DVI-D Cable 10M
32000-114101-RS	Single-link DVI-D Cable 10M
32000-000098-RS	RS-232 Cable 1.8M
33Z01-000012-RS	DVI (Male) to HDMI(Female) converter
33Z01-000013-RS	DVI (Female) to HDMI (Male) converter

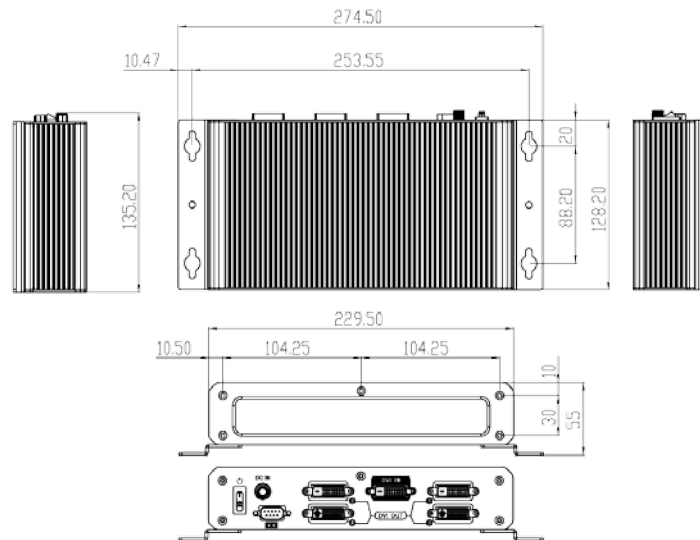
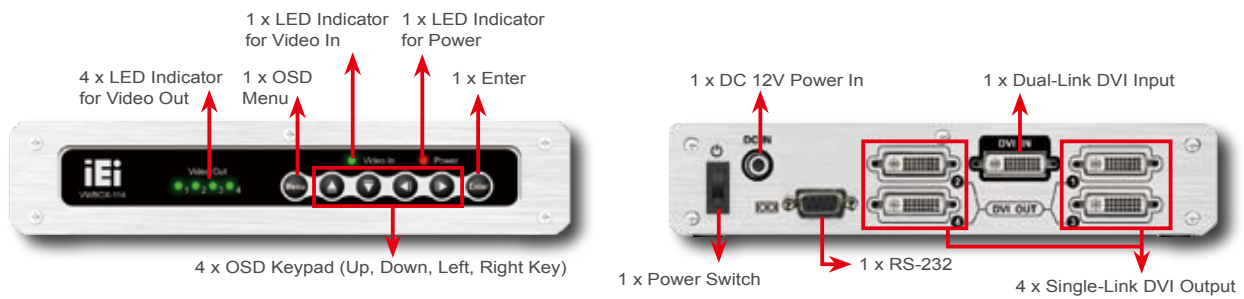
		VWBOX-122A-R10				VWBOX-133A-R10			
Dimensions(mm) (W x D x H)		230 x 180 x 47				295 x 188 x 47			
Cooling		Fanless				Fanless			
Front Panel	LED Light	6 x LED (1x Input, 4x Output, 1x Power)				11 x LED (1x Input, 9x Output, 1 x Power)			
	Keypad	6 Keys				6 Keys			
	IR Receiver	Yes				Yes			
Rear Panel	Input	1 x DVI dual-link Input				1 x DVI dual-link Input			
	Output	4 x DVI single-link Output				9 x DVI single-link Output			
	Power Switch	1 x Power (in) with lock				1 x Power (in) with lock			
	RS-232	1 x RS-232				1 x RS-232			
Resolution	Input	Output	Output Vertical Frequency (Hz)	Output Horizontal Frequency (kHz)	Input	Output	Output Vertical Frequency (Hz)	Output Horizontal Frequency (kHz)	
	Full Mode (2 x 2)				Full Mode (3 x 3)				
	2048x1536	(4x1024x768) x1	60	48.36	3072x2304	(9x1024x768) x1	60	48.36	
	2560x2048	(4x1280x1024) x1	60	63.98	3840x2160	(9x1280x720) x1	66	49.37	
	2560x1440	(4x1280x720) x1	66	49.37	3840x2400	(9x1280x800) x1	58	48.2	
	2560x1600	(4x1280x800) x1	58	48.2	3840x3072	(9x1280x1024) x1	60	63.98	
	2720x1536	(4x1360x768) x1	57	45.32	4080x2304	(9x1360x768) x1	57	45.32	
	3840x2160	(4x1920x1080) x1	50	56.25	Full Mode (2 x 3)				
	3840x2400	(4x1920x1200) x1	50	61.75	2048x2304	(6x1024x768) x1	60	48.36	
	Clone Mode (1 x 1)				2560x2400	(6x1280x800) x1	58	48.2	
	1024x768	(1x1024x768) x4	60	48.36	2560x3072	(6x1280x1024) x1	60	63.98	
	Vertical Replication Mode (2 x 1)				2720x2304	(6x1360x768) x1	57	45.32	
	2560x1024	(2x1280x1024) x2	60	63.98	Full Mode (3 x 2)				
	3840x1080	(2x1920x1080) x2	50	56.25	3072x1536	(6x1024x768) x1	60	48.36	
	3840x1200	(2x1920x1200) x2	50	61.75	3840x1600	(6x1280x800) x1	58	48.2	
					3840x2048	(6x1280x1024) x1	60	63.98	
					4080x1536	(6x1360x768) x1	57	45.32	
Power Consumption		10W				17W			
Power Supply	Connector	DC Power Jack				DC Power Jack			
	Input	90VAC to 264VAC/47Hz to 63Hz				90VAC to 264VAC/47Hz to 63Hz			
	Output	12V DC				12V DC			
OSD Function		1. Output resolution selection 2. GeniMask bezel masking control 3. Power On/Off 4. Output Sync On/Off				1. Output resolution selection 2. GeniMask bezel masking control 3. Power On/Off 4. Output Sync On/Off			
Temperature		0°C ~ 50°C				0°C ~ 50°C			
Safety and Emission		CE, FCC				CE, FCC, and CCC			

Ordering Information

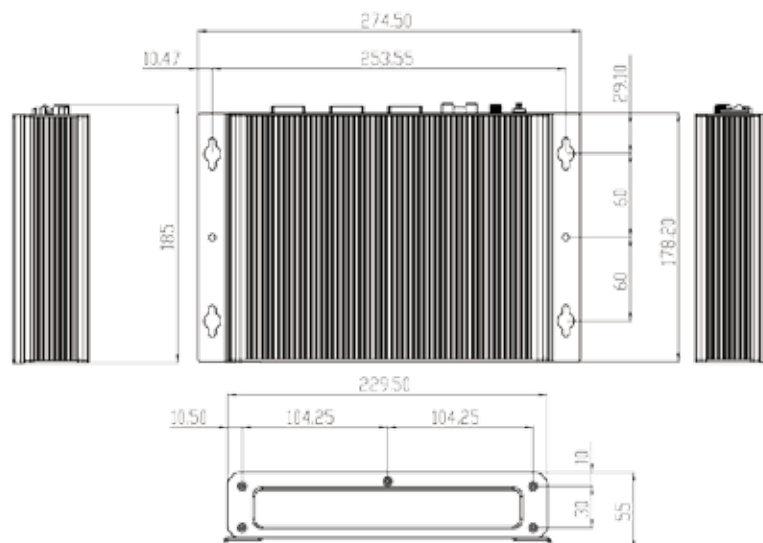
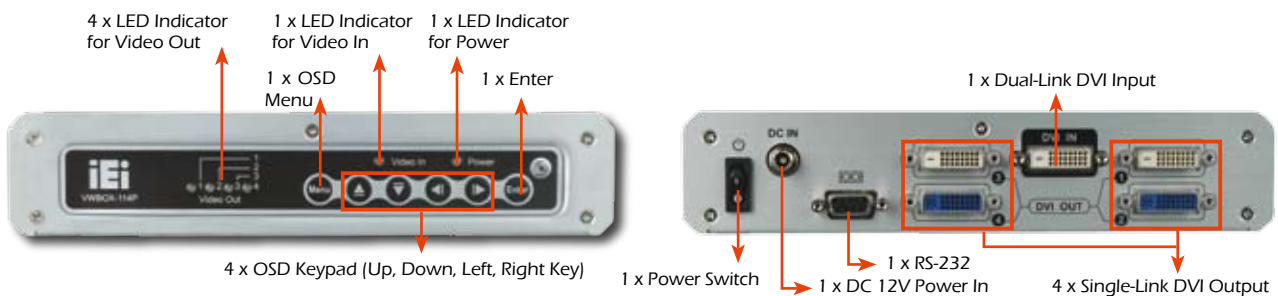
Model Name	Description
VWBOX-114-R10	Up to 4092 x 768 ultra high resolution input video wall controller, 1 Dual-link DVI input, 4 Single-link DVI output (4 x 1), RoHS
VWBOX-114P-R10	Up to 4092 x 768 ultra high resolution input video wall controller, 1 Dual-link DVI input, 4 Single-link DVI output (4 x 1), RoHS
VWBOX-122A-R10	Up to 3840 x 2400 ultra high resolution input video wall controller, 1 Dual-link DVI input, 4 Single-link DVI output (2 x 2), RoHS
VWBOX-133A-R10	Up to 3840 x 3072 ultra high resolution input video wall controller, 1 Dual-link DVI input, 9 Single-link DVI output (3 x 3), RoHS

Dimensions

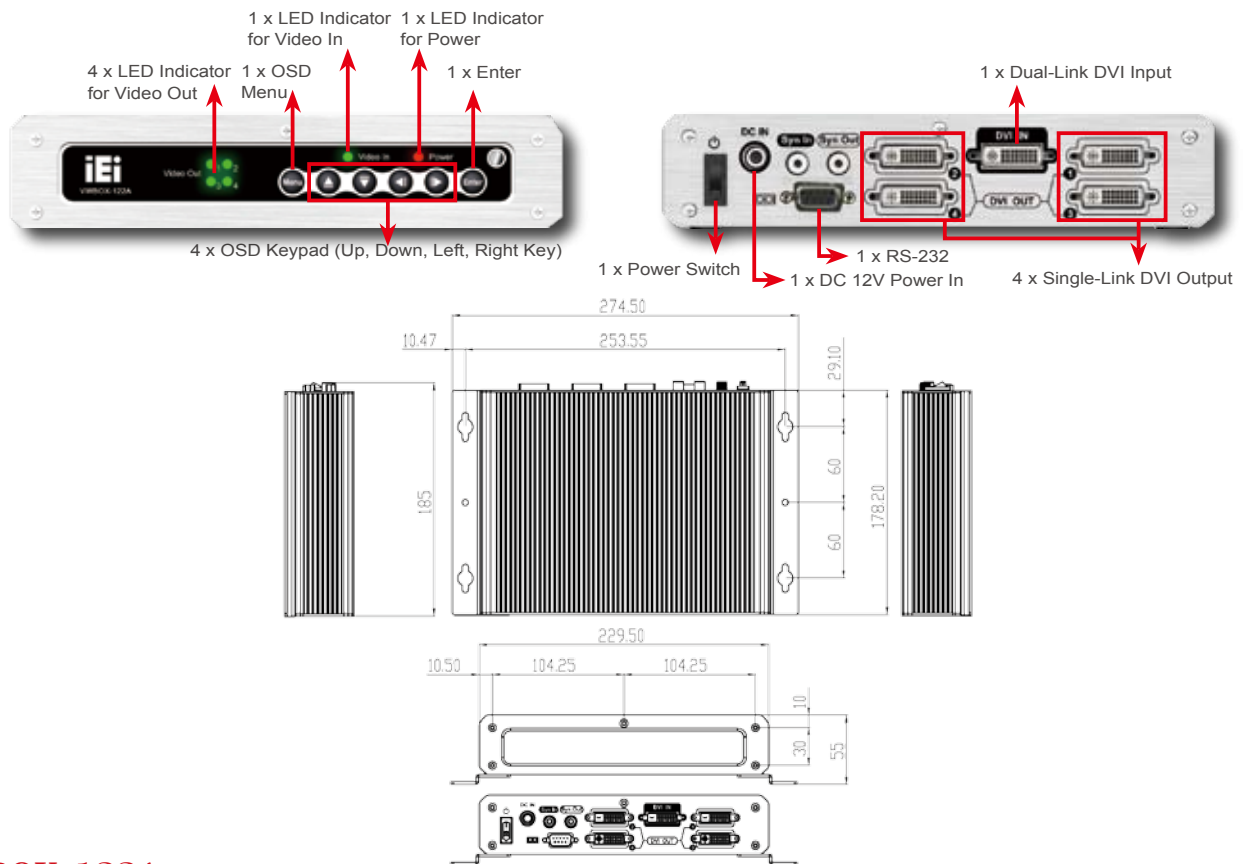
VWBOX-114



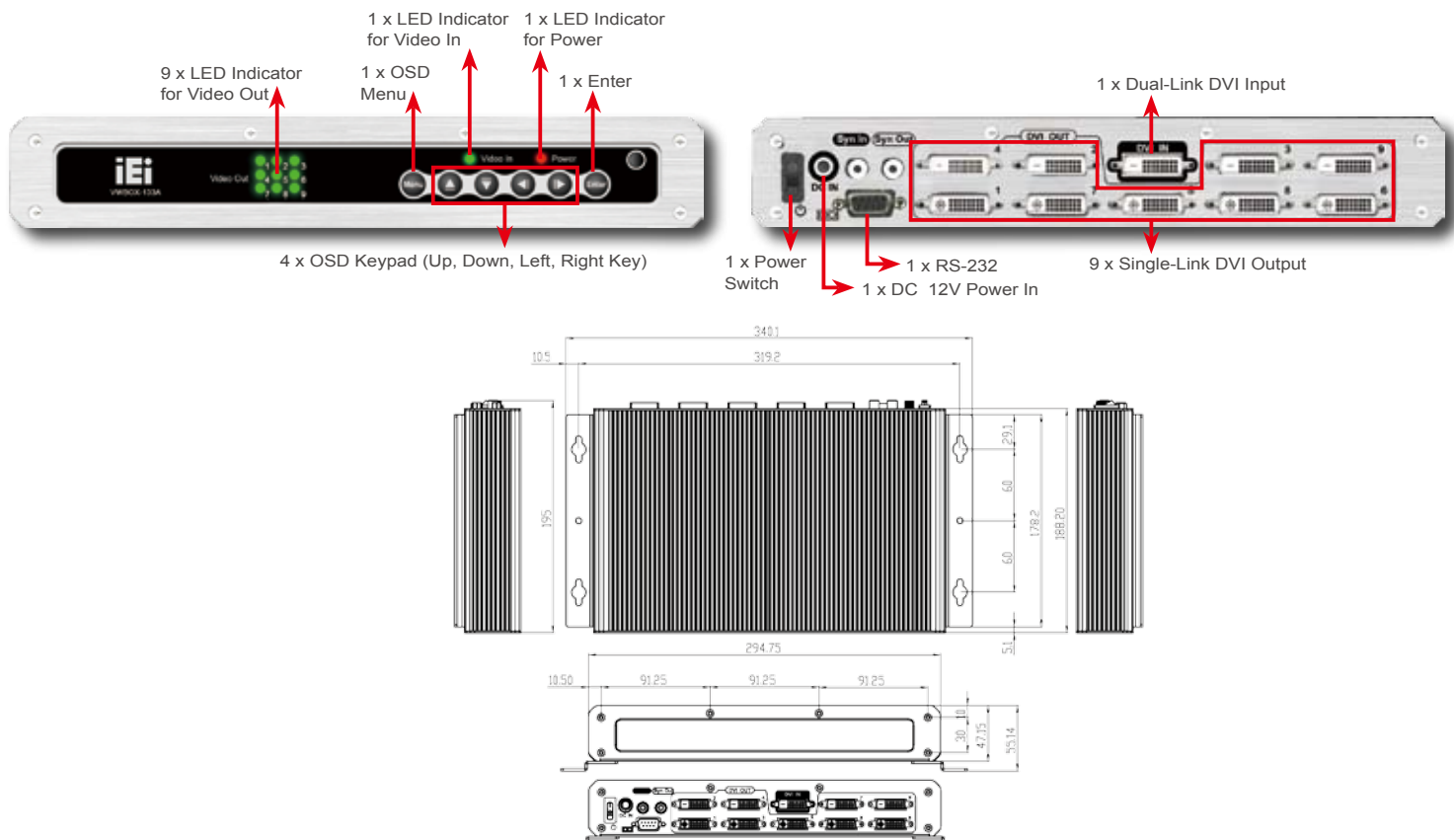
VWBOX-114P



VWBOX-122A



VWBOX-133A



IEI Video Wall Controller

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Cost-Effective

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Input Support

Easy Expansion

Compact Size &
Fanless



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